

PRELIMINARY DRAFT

TONOPAH STUDY AREA GRAZING ENVIRONMENTAL STATEMENT



HD 243 .N3 T66 1976 v.2 UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
BATTLE MOUNTAIN DISTRICT
NEVADA

DECEMBER 1976

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HD 243 ,N3 T66 1976 V.2

PRELIMINARY DRAFT

APPENDICES

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APPENDIX A

GRAZING ALLOTMENTS AND SYSTEMS

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DESCRIPTION OF DESCRIPTION OF THE PARTY OF T

The first portion of the Appendix A shows a schematic diagram and grazing schedule and an illustration for each allotment in the Tonopah study area. The allotments are: Blue Eagle, Butterfield Springs, Nyala, Reveille, Hot Creek, Wagon Johnnie, Stone Cabin, Ralston-Monitor, Hunt's Canyon, Francisco, Darrough Hot Springs, Ione, San Antone-Smoky, and Willow Creek.

PRELIMINARY DRAFT

The first position of the Appendix A shows a schedally distract and assessed as a state and as illustration for each allegant in the Tomopah atmiy area. The allegance are: Also Regio, Sutterfield Eprings, Nysia, Newtille, Not Creat, Vagon Johnson, Stone Cabic.

Raiston-Monitor, Sunc's Carpon, Francisco, Darrough Not Epring, Jones, San Antone-Sunky, and Willes Creat.

TABLE A-\
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 1

Allotment		Total	AUMs	Acres Rested		Acre	s Grazed H		
STATUTE -		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Blue Eagle	(P1	8,460	235		8,460				235
) P2	12,130	240			12,130		,	235
•	[P3	3,390	243	3,390					-0-
	CPW1	9,020	254				9,020		235
	PW2	11,560	250					11,560	235
	C								data.
Butterfield Springs	(P1	40,000	39	40,000					-0-
deterrierd oprings	}P2	19,800	255	12,211	19,800				255
	PW1	62,320	1,078		,	62,320			1,078
Late Control	SPW2	26,080	873			,	26,080		874
	E PWZ	20,000	075		12-11				
Jvo 1 o	P1	104,315	2,597			104,315			2,600
lya1a	P2	51,929	2,617			30.,000		51,929	2,600
	P2	53,991	2,657		53,991			,,,,,,	2,600
	P3		2,697		30,331		114,190		2,600
	, P4	114,190	2,097				22.,200		_,
	D4	277 522	6,900		237,522			5 246	4,800
Reveille	P1	237,522			201,322	133,925			4,800
	P2	133,925	5,239		21	100,020		141,320	4,800
	Р3	141,320	4,809	106,878				141,020	-0-
	P4	106,878	4,843	100,878	140				-0-
	24	100 100	2 146	William A			108,499		2,150
Hot Creek	P1	108,499	2,146				100,433	103,254	3,200
	P2	103,254	3,203		100 665			103,234	3,200C
	Р3	199,665	9,754		199,665				6,205S
		440 4==	0.050			110,437			2,150
	P4	110,437	2,250	AC 477	1	110,437			-0-
	P5	46,433	2,147	46,433		-			-0-
T.1.1.4	20.4	22 560	1 746		22,560				1,500
Wagon Johnnie*	P1	22,560	1,746		22,000	41,160			1,500
	P2	41,160	1,520			41,870			1,168
	P3	41,870	1,242	20,190		41,070			-0-
	P4	20,190	1,346	20,190					
Stone Cabin	\(P1	127,795	3,570	4m²				127,795	3,524
Stone Cabin	} P2	82,060	3,524					82,060	3,524
					37,040				1,267
	(P3	37,040	1,231		37,040	34,120			1,043
) P4	34,120	1,260			0,,120	EE E60		1,043
) P5	55,560	1,232				55,560		-0-
	P6	44,000	1,254	44,000					,

\$.				
	323			

THE STREET AND GRADUL M. PLANDLESS STREET

TABLE A-\
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 1

Allotment		Total	AUMs	Acres Rested		Acre	s Grazed I		
		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Ralston-Monitor	(PM1	19,494	714		7		19,494	,	709
111270-1110	PM2	53,455	709	53,455					-0-
	2 PM3	11,639	701	TOTAL CO.		11,639			709
	PM4	18,992	1,083			18,992			709
	PR1	195,356	4,943					195,356	4,795
more of course .	PR2	84,110	4,794	84,110					-0-
	PR3	192,651	5,138	·	192,651				4,795
Hunts Canyon	P1	67,450	1,011					67,450	928
The second	· P2	52,790	966		52,790			•	928
	P3	40,247	933			,		40,247	928
	P4	13,110	121				13,110		121
rancisco	P1	5,939	240		5,939				240
	P2	3,616	246			3,616			240
	P3	4,340	237	· ·	•			4,340	240
	P4	3,436	235	3,436					-0-
Darrough Hot	P1	3,380	383	•	(8.1)	3,380			396
Springs	P2 ·	4,130	383	4			4,130		396
	P3	3,420	383		3,420				340
	P4	4,020	102	4,020					-0-
Ione	P1	65,280	3,167C 3,368S	٠.				65,280	2,608C 923S
	P2	56,320	3,096C					56,320	1,863C
		30,020	1,895S			, and			1,5388
	Р3	69,499	3,089C	69,499					-0-
	. 3	00,400	1,8758	00,100					
San Antone-Smoky	P1	279,532	8,450		279,532				7,488
	P2	553,856	10,730					553,856	7,488
	Р3	389,760	7,488	389,760					-0-

CAST SPRAIN WE OWNER AS TIMESCOPE AND

TABLE A-1 ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 1

	W-4-1	AUMs	Acres Rested		Acre	es Grazed	By Season	
Allotment	Total Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Willow Creek	P1 22,520	1,431		,	26 503	22,520	3	250 610
Totals	P2 26,593 *4,456,408	1,497 129,316C	865,171	1,113,370	26,593 604,497	372,603	1,500,767	89,997C 8,666S
Percent of Total Area and AUMs		13,343S	19%	25%	14%	8%	34%	69%

NOTE: Abbreviations used in this table are:

P = Pasture

PW = Pasture (winter)

PM = Pasture (Monitor)

PR = Pasture (Ralston)

Inclusive pastures in a system

* Excludes 4,140 acres in pasture 5 of Wagon Johnnie allotment.

TABLE A-2.
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 2

llotment	1	Total	AUMs	Acres Rested			s Grazed E		
arro emeric		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Slue Eagle	(P1	8,460	235			8,460			235
rue Lagie) P2	12,130	240	12,130					-0-
	\P3	3,390	243		3,390				235
	(PW1	9,020	254					9,020	235
	PW2	11,560	250				11,560		235
Sutterfield Springs	(P1	40,000	39		40,000				255
sutterfield springs	} P2	19,800	255	19,800					-0-
	PW1	62,320	1,078	,		62,320			1,078
Sport or Establish	PW2	26,080	873				26,080		874
to a 1 a	P1	104,315	2,597					104,315	2,600
lyala	P2	51,929	2,617		51,929				2,600
	P3	53,991	2,657				53,991		2,600
	P4	114,190	2,697		*	114,190			2,600
	P4	114,150	2,007						
2	P1	237,522	6,900			237,522			4,800
Reveille	P2	133,925	5,239	,				133,925	4,800
	P3	141,320	4,809	141,320					-0-
	P4	106,878	4,843	,	106,878				4,800
	14	100,070	4,010	A-79%					
Hot Creek .	P1	108,499	2,146		108,499				2,150
not creek .	P2	103,254	3,203				103,254		3,200
	P3	199,665	9,754					199,665	3,200C
	1.5	155,000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						6,205S
	P4	110,437	2,250	110,437	1				-0-
	P5	46,433	2,147			46,433			2,150
Wagon Johnnie*	P1	22,560	1,746			22,560			1,500
wagon Johnnite.	P2	41,160	1,520		**	41,160			1,500
	P3	41,870	1,242	41,870					-0-
	P4	20,190	1,346	693.50	20,190				1,334
	17	20,100	,,,,,					408 808	7 504
Stone Cabin	(P1	127,795	3,570					127,795	3,524
Scone Capin	} P2	82,060	3,524					82,060	3,524
	(P3	37,040	1,231			37,040	- 101 - 201		1,043
	(P4	34,120	1,260				34,120		1,043
			1,232	55,560					-0-
	P5 P6	55,560 44,000	1,254	00,000	44,000				1,267

	- Steel St			

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TABLE $\begin{picture}(10,1)\put(0,0){\line(0,0){10}}\put(0,0){\line(0,$

. All results		Total	AUMs	Acres Rested		Acre	s Grazed E	y Season	
Allotment		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
N. J. J. J. W. J. J. D. D.	(PM1	19,494	714	19,494				,	-0-
Ralston-Monitor	PM1	53,455	709			53,455			709
	PM2 PM3	11,639	701		*777767	11,639			709
			1,083					18,992	709
	(PM4	18,992	4,943	195,356					-0-
	(PR1	195,356	4,943		84,110				4,795
	PR2	84,110	4,794		04,110			192,651	4,795
	PR3	192,651	5,138						
	-	450	1 011		67,450				928
Hunts Canyon	P1	67,450	1,011		07,100			52,790	928
Par Pastary	P2	52,790	966					40,247	928
	P3	40,247	933				13,110		121
	P4	13,110	121				10,110		
The last		E 070	240			5,939			240
Francisco	P1	5,939						3,616	240
	P2	3,616	246	4,340					-0-
	Р3	4,340	237 ·	4,340	3,436				240
	P4	3,436	235		3,430				
			707				3,380		396
Darrough Hot	P.1	3,380	383		4,130				340
Springs	P2	4,130	383	ARTHUR STATE OF THE STATE OF TH	4,130	3,420			396
	Р3	3,420	383		4,020	5,420			51
	P4	4,020	. 102		4,020				
		4. 000	7 1670					65,290	1,863C
Ione	P1	65,280	3,167C			,			1,538S
			3,368S	F6 722	at .				-0-
	P2	56,320	3,096C	56,320		-			-0-
			1,8958					69,499	2,608C
	P3	69,499	3,089C					05,155	923S
			1,8758						2200
								279,532	7,488
San Antone-Smoky	P1	279,532	8,450	1 12 2 2 1 2 2				213,332	-0-
	P2	553,856	10,730	553,856	700 700				7,488
	P3	389,760	7,488	ese*	389,760				7,400

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TABLE A-2
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 2

Allotment		Total	AUMs	Acres Rested		Acr	es Grazed	By Season	
		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Willow Creek	P1	22,520	1,431	25,520					-0-
	P2	26,593 *4,456,408	1,497 129,316C	1,233,003	927,792	$\frac{26,593}{670,731}$	245 405	1,379,387	858 90,212C
Totals		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	13,3438	1,200,000	321,132	0/0,/31	243,493	1,3/9,30/	8,666S
Percent of Total Area and AUMs				28%	. 21%	15%	5%	31%	69%

NOTE: Abbreviations used in this table are:

P = Pasture

PW = Pasture (winter)

PM = Pasture (Monitor)

PR = Pasture (Raltson)

Inclusive pastures in a system

J.

^{*} Excludes 4,140 acres in pasture 5 of Wagon Johnnie allotment.

TABLE A-3

ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 3

Allotment	1	otal	AUMs	Acres Rested			s Grazed		
	P	cres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Blue Eagle	(P1	8,460	235	8,460					-0-
246 24624	} P2	12,130	240		12,130			•	235
	(P3	3,390	243			3,390	2		235
	(PW1	9,020.	254				9,020		235
	{PW2	11,560	250					11,560	235
Sutterfield Springs	(P1	40,000	39	40,000					-0-
	3 P2	19,800	255 .		19,800				255
	PW1.	62,320	1,078			62,320			1,078
	} PW2 .	26,080	873				26,080		874
lua la	P1	104,315	2,597		104,315				2,600
Nyala	P1 P2				104,013		51,929		2,600.
		51,929	2,617			53,991	51,525		2,600
	P3	53,991	2,657			33,331		114,190	2,600
	P4	114,190	2,697					114,150	2,000
Reveille	P1	237,522	6,900		•			237,522	4,800
	P2	133,925	5,239	133,925					-0-
	P3	141,320	4,809		141,320				4,800
	P4	106,878	4,843			106,878		• 4 4	4,800
		1 10 100		e profes					
Hot Creek	P1	108,499	2,146					108,499	2,150
	P2	103,254	3,203		103,254				3,200
	P3	199,665	9,754				199,665		3,200C
			•			440 475			6,2058
	P4	110,437	2,250		e e	110,437			2,150
	P5	46,433	2,147	46,433					-0-
Wagon Johnnie*	P1	22,560	1,746			22,560			1,500
	P2	41,160	1,520	41,160					-0-
	P3	41,870	1,242	,	41,870				1,168
	P4	20,190	1,346			20,190			1,334
Stone Cabin	S P1	127,795	3,570	dy/				127,795	3,524
JULIO GUOLII	E P2	82,060	3,524					82,060	3,524
	P3	37,040	1,231				37,040		1,043
	\ P4	34,120	1,260	34,120					-0-
) P5	55,560	1,232		55,560				1,267
	(P6	44,000	1,254		00,000	44,000			1,043

			Service anymic political and the service and t

THE RESIDENCE OF CHARLES AND A STATE OF STATE OF

TABLE A-3
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 3

Allotment	1	Total	AUMs	Acres Rested		Acre	s Grazed H	By Season	
ATTOCMENC		Acres	Available	Yearlong	Spring	Summer	Fal1	Winter	AUMs Used
D-1-t Maniton	(PM1	19,494	714			19,494			709
Ralston-Monitor	PM2	53,455	709			53,455		,	709
	S PM3	11,639	701				11,639		. 709
			1,083	18,992					-0-
	PM4	18,992	4,943	10,332	195,356				4,795
	CPR1	195,356			100,000			84,110	4,795
	PR2	84,110	4,794	102 (51				01,110	-0-
	PR3	192,651	5,138	192,651					
Hunts Canyon	P1	67,450	1,011					67,450	928
ittires carryon	P2	52,790	966		*			52,790	928
	P3	40,247	933		40,247				928
	P4		121				13,110	•	121
	P4	13,110						•	
Francisco	P1	5,939	240					5,939	240
Francisco	.P2	3,616	246	3,616					-0-
	P3	4,340	237		4,340				240
	P4		235	· ·		3,436			240
	P4	3,436	233			,,,,,			
Darrough Hot	P1	3,380	383		3,380				340
	P2	4,130	383			4,130			396
Springs	P3	3,420	383	A-179		•	3,420		396
			. 102	4,020					-0-
	P4	4,020	. 102	7,020					
•	P1	65,280	3,167C	65,280					-0-
Ione	PI	05,200	3,368S	00,200					-0-
	ne	FC 700			*			56,320	2,608C
	P2	56,320	3,096C		1				9238
			1,8958					69,499	1,863C
	P3	69,499	3,089C						1,538S
			1,875S						_,
Can Antono Smoker	P1	279,532	8,450	279,532					-0-
San Antone-Smoky	P2	553,856	10,730		553,856				7,488
	P3		7,488					389,760	7,488
	P 3	389,760	7,400						

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TABLE A-3

ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 3

	Total	AUMs	Acres Rested	Acres Grazed By Season				
Allotment Total Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used	
Villow Creek	P1 22,520	1,431			22,520	26,593	,	610 250
Totals	P2 26,593 *4,456,408	1,497 129,316C	868,189	1,275,428	526,801	378,496	1,407,494	89,831C 8,666S
Percent of Total Area and AUMs		13,343S	. 19%	29%	12%	8%	32%	69%.

NOTE: Abbreviations used in this table are:

P -= Pasture

PW = Pasture (winter)

PM = Pasture (Monitor)

PR = Pasture (Ralston)

Inclusive pastures in a system

^{*} Excludes 4,140 acres in pasture 5 of Wagon Johnnie allotment.

TABLE A----A
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 4

Allotment	Total		AUMs	Acres Rested			s Grazed		
Modern	1	Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Blue Eagle	(P1	8,460	235		8,460				235
)P2	12,130	240			12,130			235
	{P3	3,390	243	3,390					-0-
	CPW1	9,020	254			٠.		9,020	235
	PW2	11,560	250					11,560	. 235
Butterfield Springs	(P1	40,000	39		40,000				255
succernierd Springs	} P2	19,800	255	19,800	40,000				-0-
	PW1	62,320	1,078	13,000		62,320			1,078
WITH THE THE	S PW2	26,080	873			02,020	26,080		874
	2	20,000							
Nyala	P1	104,315	2,597				104,315	•	2,600
	P2	51,929	2,617			51,929			2,600
	Р3	53,991	2,657			,		53,991	2,600
	. P4	114,190	2,697		114,190				2,600
Reveille	P1	237,522	6,900	237,522			÷ .		-0-
Reveille	P2	133,925	5,239	237,322	133,925				4,800
	P3	141,320	4,809		100,010	141,320			4,800
a manufacture of the same of t	P4	106,878	4,843					106,878	4,800
	1.4	100,070	4,040	CZMB .				,	,,===
Hot Creek	P1	108,499	2,146				108,499		2,150
	P2	103,254	3,203					103,254	3,200
	Р3	199,665	9,754		199,665				3,200C
									6,205S
	P4	110,437	2,250	110,437					-0-
	P5	46,433	2,147			A6,433			2,150
Wagon Johnnie*	P1	22,560	1,746	22,560					-0-
augon bonning	P2	41,160	1,520	20,000	41,160				1,500
	P3	41,870	1,242		,	41,870			1,168
	P4	, 20,190	1,346			20,190			1,334
	(105 705	7 570					127,795	3,524
Stone Cabin	5P1	127,795	3,570	840				82,060	3,524
	₹ P2	82,060	3,524	77 040				02,000	-0-
	P3 P4	37,040	1,231	37,040	34,120				1,267
		34,120	1,260		34,120	FF F(0			
	7 P5	55,560	1,232			55,560	44,000		1,043
	(P6	44,000	1,254				44,000		1,043

STEERS .				
22.5323				

STEE STEELS WE CARRY IN PRINCIPLE STREET

TABLE A->+

ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 4

llotment	1	Total	AUMs	Acres Rested		Acre	s Grazed	By Season	
CITOCHICITE		Acres	Available	Yearlong	Spring	Summer	Fall	Winter	AUMs Used
Ralston-Monitor	(PM1	19,494	714			19,494			709
1	PM2	53,455	709				53,455	,	709
	PM3	11,639	701	11,639					-0-
	PM4	18,992	1,083			18,992			709
	PR1	195,356	4,943					195,356	4,795
	PR2	84,110	4,794	84,110					-0-
	PR3	192,651	5,138		192,651				4,795
Hunts Canyon	P1	67,450	1,011					67,450	928
nuites Canyon	P2	52,790	966					52,790	928
	P3	40,247	933		40,247				928
	P4	13,110	121				13,110		121
Francisco	P1	5,939	240	5,939					-0-
riancisco	P2	3,616	246		3,616				240
	P3	4,340	237			4,340			240
	P4	3,436	235					3,436	240
Darrough Hot	P1	3,380	. 383			3,380			340
Springs	P2	4,130	383				4,130		396
Springs	P3	3,420	383		3,420				396
	P4	4,020	102		4,020				51
Ione	P1	65,280	3,167C					65,280	2,608C
Tone		30,200	3,368S		•	,			923S
	P2	56,320	3,096C		1			56,320	1,863C
			1,8958			-			1,538S
	Р3	69,499	3,089C	69,499					-0-
		30, 100	1,8758						-0-
San Antone-Smoky	P1	279,532	8,450	,	279,532				7,488
San Ancone-Smoky	P2	553,856	10,730					553,856	7,488
	P3	389,760	7,488	389,760					-0-

NAME AND ADDRESS OF TAXABLE PARTY.

TABLE N- >>
ACRES RESTED AND GRAZED BY LIVESTOCK YEAR 4

Allotment	Total	AUMs	Acres Rested		Acres Grazed By Season					
	Acres	Available	Yearlong	Spring	Summer	Fal1	Winter	AUMs Used		
Willow Creek	P1 22,520 P2 26,593	1,431 1,497	26,593		22,520			858		
Totals	*4,456,408	1,497 129,316C 13,343S	1,018,289	1,095,006	500,478	353,589	1,489,046	89,880C 8,666S		
Percent of Total Area and AUMs		20,000	23%	25%	11%	8%	33%	69%		

NOTE: Abbreviations used in this table are:

P = Pasture

PW = Pasture (winter)

PM = Pasture (Monitor) PR = Pasture (Ralston)

Inclusive pastures in a system

^{*} Excludes 4,140 acres in pasture 5 of Wagon Johnnie allotment.

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APPENDIX B

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Illustration B-1. Weather Station Locations. Shown on half a page map, the seven reporting stations within the Tonopah study area.

Table B-1. Weather Station Descriptions. Gives detailed information on the representativeness, elevation, latitude-longitude, and period of record for the following weather stations: Currant Highway, Adaven, Rattlesnake, Stone Cabin Valley, Tonopah Airport, Smoky Valley, and

Ione.

TRASO

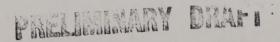
Illustration 2-1. Vession teation Leastions. Crows on half a previous that the tomopals study area.

Table 2-1. Weather Station Descriptions. Gives detailed information on the representativement, abundance, lengthed entitled of period of record for the Pollowing vention of allows: Compute Highway, Aleren. Mattheways, Compute Value, Toropak Alerent, Society Valley, one

TABLE B-2
PRECIPITATION MEANS AND PROBABILITIES FOR 1-WEEK PERIOD ADAVEN, NEVADA

Period Mea Begins Pcp		Probab the Fo	oility	(Perceng Amo	ent) o unts (f Recei	iving Preci	at Lea pitati	st on	
		0.06	0.10	0.20	0.40	0.60	0.80	1.00	1.40	2.00
Mar 29 Apr 05 Apr 05 Apr 12 Apr 19 Apr 26 May 03 May 10 May 17 May 24 May 31 Jun 07 Jun 14 Jun 21 Jun 28 Jul 05 Jul 12 Jul 19 Jul 26 Aug 02 Aug 09 Aug 16 Aug 23 Aug 30 Sep 06 Sep 13 Sep 20 Sep 27 Oct 04 Oct 11 Oct 18 Oct 25 Nov 01 Nov 08 Nov 15 Nov 22 Nov 29 Dec 06 Dec 13 Dec 20 Dec 27 Jan 03	3 41 2 40 6 39 7 40 1 48 0 57 9 48 0 44 8 57 4 59 21 58 61 62 69 68 66 74 63 72 63 72 63 34 63 34 64 62 68 76 68 76 68 78 16 68 70 73 60 74 12 72 20 68 16 68 28 70 13 69 18 67 32 60 24 59 15 64 28 63 10 61 20 57	53 52 52 53 52 43 35 45 52 39 34 37 36 34 27 21 20 23 30 38 48 56 59 58 48 59 21 19 23 25 29 29 29 29 29 29 29 29 29 29 29 29 29	50 48 48 49 47 39 31 42 49 36 31 33 33 31 24 18 17 20 27 35 44 51 54 54 55 27 20 18 22 24 27 28 27 28 28 28 29 29 20 20 20 20 20 20 20 20 20 20	42 41 40 39 38 31 24 34 42 30 24 25 25 25 18 12 11 14 20 27 36 42 45 44 38 28 22 16 15 19 20 23 24 24 25 26 27 26 27 26 27 26 27 27 27 27 27 27 27 27 27 27 27 27 27	31 30 28 26 26 20 14 22 30 21 15 15 14 16 11 4 4 7 12 17 24 29 30 30 26 19 14 10 13 14 16 17 17 17 17 17 17 17 17 17 17	23 23 20 18 18 13 8 15 21 15 10 9 9 11 8 2 2 4 7 11 16 20 21 20 18 15 8 6 7 9 10 11 12 11 12 11 13 14 14 15 16 17 18 18 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	17 17 14 12 12 8 5 10 15 11 6 5 6 8 5 1 1 1 2 4 7 10 14 14 13 12 9 8 6 8 7 8 8 8 9 8 8 9 8 9 8 8 9 8 8 8 9 8 8 8 8 9 8 8 8 8 9 8	12 13 10 8 9 6 3 6 11 8 4 3 4 6 4 1 3 5 7 9 10 9 8 6 3 3 4 6 4 6 6 6 6 6 7 6 6 6 6 6 7 6 6 6 6 7 6 6 6 6 6 7 6 6 6 6 7 6 6 6 6 7 6 6 6 6 7 6 6 6 6 7 6 6 6 6 7 6 6 6 7 6 6 7 6 6 6 7 6 6 6 7 6 6 7 6 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 6 7 6 7 6 6 7 7 7 6 7 6 7 6 7 6 7 7 6 7 6 7 7 6 7 6 7 7 6 7 7 6 7 7 6 7 7 6 7 7 7 6 7 7 7 7 7 6 7 7 7 6 7 7 7 6 7 7 7 7 7 7 7 6 7	1.40 7 8 5 4 4 3 1 3 5 4 2 1 2 4 2 1 1 1 1 2 2 3 4 5 4 5 6 4 5	3 3 2 1 2 1 1 2 2 1 1 2 1 1 2 1
Jan 10	37 41 37 39 30 38 49 30 40 27 26 36 35 42	52 52 54 62 64 57	48 50 57 59 53	40 40 42 48 49 44 43	28 29 30 35 34 29 30	20 21 22 26 23 19 21	14 15 16 19 16 13	10 11 12 14 11 8	5 6 7 6 4 5	2 3 3 2 1

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.



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TABLE 8-3
PRECIPITATION MEANS AND PROBABILITIES FOR 2-WEEK PERIOD ADAVEN, NEVADA

Peri		Mean Pcpn	Prob O-T						iving Preci			
				0.06	0.10	0.20	0.40	0.60	1.00	1.40	2.00	4.00
Mar	01	,80	19	74	70	62	50	4.1	• 27	18	10	. 2
Mar	15	.58	13	78	74	64	49	37	22	13	6	
Mar	29	.59	17	73	68	58	42	31	18	10	4	
Apr	12	. 29	28	63	58	48	34	24	12,	6	2	
Apr	26	.68	24	70	67	59	45	35	21	13	6	
May	10	. 36	36	56	51	42	29	20	10	5	2	
May	24	.42	38	56	52	44	32	23	13	7	3	
Jun	07	.15	49	42	38	28	17	10	5	3	1	
Jun	21	.13	54	38	34	24	12	6	2	1		
Ju1	05	. 33	37	55	51	42	29	20	10	5	2	
Ju1	19	.59	18	75	71	62	47	36	21	12	5	
Aug	02	. 67	12	81	77	67 .	52	40	24	14	7	
	16.	,51	33	62	59	52	40	30	18	10	4	
Aug	30	. 25	55	42	39	33	23	16	7	3	1	
Sep	13	. 25	58	37	35	29	21	15	7	4	1	
Sep		.33	50	46	44	38	28	21	11	6	2	
Oct		.45	48	49	47	41	32	25	15	9	4	
Oct	25	. 32	47	49	46	40	30	23	13	8	4	
Nov		.56	38	59	57	52	41	31	18	10	4	
Nov		.43	38	57	54	47	35	26	14	7	3	
Dec		.31	38	59	56	49	35	24	12	6	2	
Dec	20	.73	27	70	68	62	50	40	25	15	7	
Jan		.60	26	70	67	60	4.8	38	23	14	7	1
Jan		, 68	18	77	73	65	52	42	- 26	17	8	1
Jan		.89	8	86	83	74	59	47	30	18	9	1
Feb		,61	13	83	80	71	55	41	23	12	5	

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.



PRECIFICATION NEAVS IND PROBABILITIES FOR 2-MERK PERIOD

		Preci					
	701						
				15			

Source: Afrer Olfford, et al., Proceptation Probabilities for Mestern

I MARIO VILLENIA

PRECIPITATION MEANS AND PROBABILITIES FOR 3-WEEK PERIOD ADAVEN, NEVADA

Peri		Mean Pcpn	Prob O-T			-	cent) o		_			
				0.06	0.10	0.20	0.40	0.60	1.00	1.40	2.00	4.00
Mar	01	1.12	8	86	82	75	63	53	` 38	28	18	4
Mar	22	. 85	5	88	. 84	75	61	48	31	20	10	1
Apr	12	.80	13	82	78	70	55	43	27	17	8	1
May		.54	21	73	70	61	47	35	201	5		
May		.51	25	67	63	55	42	32	19	11	5	
Jun		.19	37	54	48	35	18	10	3	1		
Ju1		.57	20	75	71	63	49	37	21	12	5	
Ju1		1.02	8	89	86	80	67	56	38	26	14	2
Aug	16	. 67	28	70	68	62	50	39	24	14	7	
Sep		.33	48	47	45	39	29	21	12	6	3	
Sep		.50	3.4	62	60	53	42	32	. 19	12	5	
Oct		.60	30	65	62	55	44	35	22	14	7	1
Nov		.71	26	72	70	65	54	44	27	17	8	
Nov		.60	26	71	69	63	50	39	22	12	5	
Dec		.96	17	81	79	74	64	54	37	25	14	2
Jan		1.05	12	85	83	78	67	57	41	28	. 16	2
Jan		1.15	3	94	91	85	73	61	43	29	17	3
												The state of the s

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.



PRINCIPLIATION MADE AND PROPERTIES FOR 1-MERE PERIOD ADDAYS, NEVADA

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TABLE 8-5
PRECIPITATION MEANS AND PROBABILITIES FOR 1-WEEK PERIOD
TONOPAH AIRPORT, NEVADA

Period	Mean	Prob					f Recei				
Begins	Pepn	O-T	the F	ollowi	ng Amo	unts (In) of	Preci	pitati	on	
			0.06	0.10	0 20	0.40	0.60	0 00	1 00	1 40	2 00
PRELIFER		EMP.	0.06	0.10	0.20	0.40	0.60	0.80	1.00	1.40	2.00
Mar 01	.11	31	40	33	21	8	3	1			
Mar 08	08	.4.9	39	32	20	8	3	1			
Mar 15	14	53	37	32	22	11	5	3	2		
Mar 22	14	:58	34	. 29	21	11	6	4	2	1	
Mar 29	09	:62	31	27	19	10	5	3	2		
Apr 05	14	65	29	26	19	10	5	3	2		
Apr 12	0.8	:65	29	26	18	10	5	3	1		
Apr 19	12	:57	36	32	23	12.	6	3	2	·	
Apr 26	.19	353	39	34	26	14	7	4	. 2		
May 03	. 07	60	31	27	20	10	5	3	2		
May 10	.,12	.57	29	. 24	16	8	4	2	1		
May 17	08	57	29	24	16	7	4	2	1		
May 24	.08	.60	29	24	16	7	3	1	1		
May 31	.10	:65	28	24	16	7 .	3	1			
Jun 07	.06	7.4	20	17	11	5	2	1			
Jun 14	.01	75	13	8	4	2	1				
Jun 21 Jun 28	0.00	73 78	11	5	1	2	1	,			
Jul 05	.07	74	10	6 13	3	2 5	1 - 3	1	1		
Jul 12	.09	63	16 28	24	17	9	5	. 2	1 2	_	
Jul 19	.16	57	36	31	22	11	16	3	2		
Jul 26	.09	57	34	29	20	9	4	2	1		
Aug 02	.09	62	29	25	17	8	4	2	1		
Aug 09	.13	68	24	21	15	8	5	3	2		
Aug 16	.02	75	18	15	10	5	3	2	1		
Aug 23	.07	77	17	15	11	6	3	2	1		
Aug 30	.10	77	20	18	14	8	5	3	2	1 .	
Sep 06	.07	8.2	15	14	11	.7	4	. 3	2	1	
Sep 13	.03	80	14	12	9	6	3	2	2	1	
Sep 20	.10	7.3	19	16	112	7	4	3	2	1	
Sep 27	., 08	7.2	22	19	14	8	5	3	2	1	
Oct 04	.10	68	26	23	16	8	4	2	1		
Oct 11	. 08	63	29	24	17	9	5	3	2	1	
Oct 18	.15	65	28	25.	18	11	7	. 4	. 3	1	4.1
Oct 25	.11	. 68		. 23	18	1.0	6	4	2	1	
Nov 01	,08	69	24	22	16	. 9	6	4	2	1	
Nov 08	.15	63	28	24	17	10	- 6	4	. 2	1	
Nov 15	.08	61	28	23	14	6	3	2	1		
Nov 22	.03	66	23	18	10	3	1				
Nov 29	.08	64	26	20	11	_	1 1				
Dec 06	. 05	63	27	21	1.1	3	1				
Dec 13 Dec 20	.06	58	29	23 29	12 17	4	1	1			
Dec 27	.10	48 51	36 36		17	7	3	. 1 2	1		
Jan 03	.04	54	34	29 ⁻ 26	13	4	2	1	1		
Jan 10	.10	47	37	28	15	. 4	1	1			
Jan 17	.08	44	37	29	16	5	2			•	
Jan 24	.08	48	39	30	16	4	1				
Jan 31	.09	47	40	31	16	4	. 1				
Feb 07	.07	44	40	29	13	2					
Feb 14	. 07	47	39	20	14	3	1				
Feb 21	11	5.2	39	33	19	7	2	1			
			1								

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.

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Some other Collect, or st., Secreptual resultable for some

TABLE B-6
PRECIPITATION MEANS AND PROBABILITIES FOR 2-WEEK PERIOD
TONOPAH AIRPORT, NEVADA

Period Begins	Mean Pcpn	Prob O-T				ent) o unts (_			
			0.06	0.10	0.20	0.40	0.60	1.00	1.40	2.00	4.00
Mar 01	.20	35	57	51	38	20	10	` 3	1		
Mar 15	. 28	37	52	47	37	23	15	6	3	1	
Mar 29	. 23	42	49	44	34.	21	13	5	2		
Apr 12	.21	40	52	47	36	22	14	5	2		
Apr 26	.27	41	53	49	40	25	16	6	2		
May 10	.20	36	46	40	29	16	10	4	2		
May 24	.18	42	48	42	31	16	8	2			
Jun 07	;08	55	31	25	16	7	3	1			
Jun 21	.03	58	21	13	5	2	1				
Jul 05	.16	49	39	35	26	15	9	* 3	1		
Jul 19	. 26	38	55	49	38	23	13	4	1		
Aug 02	. 22	43	45	40	30	17	10	4	1		
Aug 16	.10	58	32	28	21	12	7	2	1		
Aug 30	.18	64	30	28	22	14	10	4	2	1	
Sep 13	.14	57	. 31	27	20	13	8	4	2	1	
Sep 27	.18	48	41	37	28	16	10	4	2		
Oct 11	. 24	42	48	43	33	21	13.	6	. 2	- 1	
Oct 25	,19	50	43	39	31	20	13	6	3	1	
Nov 08	. 24	39	45	40	29	18	11	5	2	1	
Nov 22	.11	39	44	36	22	8	3				
Dec 06	.11	35	49	40.	24	9	3				
Dec 20	. 23	27	57	49	34	17	8	2			9
Jan 03	.14	28	55	46	30	13	5	1			
Jan 17	.16	23	62	52	33	12	. 2	1			
Jan 31	.16	24	64	54	32	10	3				
Feb 14	.18	26	63	54	35	14	5	1			

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.

PRELIMINARY DANFT

PRECIPITATION MEANS AND PRODUCTION FOR 2-METE PURIOUS TONOPAR AIRPORT, MEVAUA

Source: After Cirrord, or al., Francipitation Probabilities for Messers.

YEARS WARRINGS

TABLE SON TABLE PRECIPITATION MEANS AND PROBABILITIES FOR 3-WEEK PERIOD TONOPAH AIRPORT, NEVADA

-												
Peri		Mean Pcpn	Prob O-T				cent) o					
				0.06	0.10	0.20	0.40	0.60	1.00	1.40	2.00	4.00
Mar	01	. 34	25	67.	62	50	32	21	. 8	3	1	
Mar	22	.38	27	63	58	47	31	21	10	5	2	
Apr	12	.41	28	67	63	53	36	25	11	5	1	
May	03	. 27	2.7	59	53	42	27	18	8.	4	. 1	
May	24	. 25	29	60	54	40	22	12	4	1		
Jun	14	.04	46	31	23	12	4	1				
Ju1	05	, 33	31	60	55	43	27	17	7	3	1	
Jul	26	.31	26	64	59	46	29	18	7	3		
Aug	16	.20	44	46	42	32	20	. 13	5	2		
Sep	06	.22	47	40	36	28	18	13	6	3	1	
Sep		.26	33	56	51	40	26	17	7	3	1	
Oct	18	.35	34	58	54	45	31	22	11	5	2	
Nov		. 27	26	56	49	37	23	14	6	3	1	
Nov	29	.19	23	63	54	36	15	6	1		37.0	
Dec	20	.27	15	71	63	47	25	14	4	1		
Jan	10	. 27	12	. 75	66	47	23	11	2			
Jan	31	, 23	12	78	69	47	20	8	. 1			

Source: After Gifford, et al., Precipitation Probabilities for Western States, 1967.

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PRINCIPALITY MEANS AND PRODUCTIVES FOR THERE PERSONS AND ADDRESS OF TAXABLE PRODUCTION ADDRESS O

Source: After Giffined, et al., Precipiration Probabilities for Western States, 1507.

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TABLE 8-8 ADAVEN TEMPERATURE DATA

Station No. 46 Location 38.1N 115.5W Years of Data 50 Elevation 6,250 Ft.

Part A: Dates of Last Spring Occurrence of Low Temperature (or Lower)

Tempe	rature C	Perc 90			ce of		Than		icated 5%	Date	
16	-9	Feb	25	Mar	11	Mar	26	Apr	10	Apr	24
20	-7 .	Mar	24	Apr	3	Apr	13	-		May	
24	-4	Apr	6	-		Apr		May	*	May	
28	-2	Apr		-	5	May		May	25	Jun	
32	0	May	13	May	21	May	28	Jun	4	Jun	12
36	2	May			30		8	Jun	17	Jun	26
40	4	Jun		Jun		Jun		Jun		Ju1	

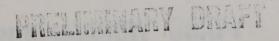
Part B: Dates of First Fall Occurrence of Low Temperature (or Lower)

Tempe	erature C	Percent 10%	Chance of 25%	Earlier 50%	Than Indicat 75%	ed Date	
16 20 24 28	-9 -7 -4 -2	Oct 30 Oct 16 Oct 4 Sep 19		Nov 15 Nov 4 Oct 23 Oct 9		Dec 1 Nov 23 Nov 11 Oct 29	
32 36 40	0 2 4	Sep 11 Sep 2 Aug 18	Sep 19 Sep 10 Aug 28	Sep 28 Sep 19 Sep 6	Oct 7 Sep 28 Sep 15	Oct 15 Oct 6. Sep 25	

Part C: Growing Season Length (Days)

Tempe F	rature	Percent 10%	Chance 25%	of	Longer 50%	Than	Indicated 75%	Length 90%
16	-9	268	252		235		218	202
20	-7	233	219		. 205		191	177
24	-4	207	193		178		163	149
28	-2	176	162 .		147		132	118
32	0	147	135		. 122		109	97
36	2	128	116		103		90	78
40	4	103	. 91		78		65	53

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data, 1975.



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TABLE 75-1 RATTLESNAKE TEMPERATURE DATA

Station No. 6630 Location 38.5N 116.2W Years of Data 20 Elevation 5,910 Ft.

Part A: Dates of Last Spring Occurrence of Low Temperature (or Lower)

Tempe	rature	Perc	ent	Chai	nce	of	Late	er Th	nan Ing	licat	ed Dat	te	
F	С	90)%		75%			50%	2	25%		10%	
16	-9	Feb	17	Mar	1		Mar	14	Mar	27	Apr	8	
20	-7	Mar	12	Mar	21		Mar	31	Apr	10 '	Apr	19	
24	-4	Mar	31	Apr	9		Apr	17	Apr	25	May	4	
28	-2	Apr	6	Apr	17		Apr	27	May	7	May	18	
32	. 0	May	5	May	13		May	21	May	29	Jun	6	
36	2	May	19	May	26		Jun	2	Jun	9	Jun	16	
40-	4	May		Jun			Jun	8	Jun	13	Jun	18	
			,							>			

Part B: Dates of First Fall Occurrence of Low Temperature (or Lower)

Tempe	erature	Percent	Chance of Ea	rlier Than	Indicated	Date
1		. 10%	250	30%	130	30.0
16	-9	Nov 8	Nov 15 No	v 22 Nov	v 29 De	c 9
20	-7	Oct 27	Nov 4 No	v 11 Nov	v 18 No	v 26
24	-4	Oct 17	Oct 23 Oc	t 30 . Nov	v 6 No	v 12
28	-2	Oct 6	Oct 17 Oc	t 23 Oct	t 31 No	v 9
32	0	Sep 21	Sep 29 0c	t 7 Oct	t 15 Oc	t 23
36	2	•	-	p 30 Oct	t 8 Oc	t 16
40	4	Sep 7		-		t 7

Part C: Growing Season Length (Days)

Tempe	rature	Percent	Chance of	of Longer	Than Indicate	d Length	
F	С	10%	25%	50%	75%	90%	
16	-9	282	268	253	238	224	
20	-7	250	238	225	. 212	200	
24	-4	215	204	193	182	171	
28	-2	204	191	177	163	150	
32	0	162	151	139	127	116	
36	2	142	131	120	109	98	
40	4	125	115	106	97	87	

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data, 1975.

ATAG SKITCHER STAR STAR

Years of Data 20

Stablon No. 6650 Gecation 38.5% 110.29

Part As Deces of Last Spring description of Low Perpersisted (at Lavet)

Park St. Dates of First Pall Congresson of Law Point to send of Swat

		V UTI V UTI					

Part C: Growing Season Long's furger

			. State of the sta	

Source: 1.5, department of the continue design design and Armorphoric Advantagements (Character Dates, 1975.

TABLE B-VO SMOKY VALLEY TEMPERATURE DATA

Station No. 7620 Location 38.8N 117.2W Years of Data 20 Elevation 5,630 Ft.

Part A: Dates of Last Spring Occurrence of Low Temperature (or Lower)

Tempe	rature	Perc	ent	Chan	ce o	f Late	er T	han Ind	dica	ted Da	te	
F	С	90	%.	75	5%		50%	*	25%		10%	
16	-9	Mar	26	Apr	6	Apr	18	Apr	30	May	11	
20	-7	Apr	10	Apr	18	Apr		May	4,	May	12	
24	-4	Apr	23	Apr	30	May	8	May	16	May	23	
28	-2	Apr	29	May	8	May	17	May	26	Jun	4	
32	0	May	21	May	26	May	31	Jun	5	Jun	10	
36	2	Jun	4	Jun	11	Jun	17	· Jun	23	Jun	30	
40.	4	Jun	16	Jun	22	Jun	28	Jul	4	Jul	10	

Part B: Dates of First Fall Occurrence of Low Temperature (or Lower)

Tempe	rature	Percent		Earlier	Than Indica	ted Date
F	С	10%	25%	50%	75%	90%
16	-9	Oct 19	Oct 28	Nov 5	Nov 13	Nov 22
20	-7	Oct 6	Oct 15	Oct 25	Nov 4	Nov 13
24	-4	Sep 27	Oct 5	Oct 12	Oct 19	Oct 27
28	-2	Sep 18	Sep 25	Oct 3	Oct 11	Oct 18
32	0	Aug 31	Sep 10	Sep 19	Sep 28	Oct 8
36	2	Aug 20	Aug 29	Sep 8	Sep 18	Sep 27 ·
40	4	Aug 6	Aug 16	Aug 25	Sep 3	Sep 13

Part C: Growing Season Length (Days)

Tempe F	rature	Percent 10%	Chance of 25%	Longer T	han Indicate 75%	ed Length 90%	
16	-9	231	217	202	187	173	
20	-7	207	195	182	169	157	
24	-4	178	167	156	145	134	
28	-2	162	150	138	126	114	
32	0	131	120	109	98	87	
36	2	105	94	82	70	59	
40	4	80	69	58	47	36	

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data, 1975.

Years of Outs 10.

Starton No. 762" Location 33.8% 117.2W

Park A: Dates of Last Spring Decembers of Low Temperature (ur Lower)

Part El Dates he bless fell Occurrates of low Temporarues (or Lawer)

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Part C: Growing Scanco Levelly (1879)

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Nonest U.S. Superinces of Commerce, National Seconds and Atmospheres Administration, Chimentogram Stars, 1975.

TABLE SANT

Station No. 8160 Location 38.1N 117.2W Years of Data 42 Elevation 6,090 Ft.

Part A: Dates of Last Spring Occurrence of Low Temperature (or Lower)

Tempe	rature	Percent	Chance of	Later Than	Indicate	ed Date	
F	С	90%	75%	50%	.25%	10%	
16	-9	Feb 3	Feb 18	Mar 5 N	1ar 20	Apr 4	
20	-7	Mar 7	Mar 18	Mar 29 A	Apr 9	Apr 20	
24	-4	Mar 23	Apr 3	Apr 15 A	Apr 27'	May 8	
28	-2	Apr 4	Apr 15	Apr 27 N	lay 9	May 20	
32	0	Apr 25	May 8	May 20 3	Jun 1	Jun 13	
36	2	May 16	May 25	Jun 2	Jun 10	Jun 19	
40	4	May 26	Jun 2	Jun 9	Jun 16	Jun 23	

Part B: Dates of First Fall Occurrence of Low Temperature (or Lower)

Tempe F	rature. C	Pero 10			nce 25%		lier 50%	Than	Indic 25%		Date	
16 20 24 28	-9 -7 -4 -2	Nov Oct Oct Oct	24 17	Nov Nov Oct Oct	.4 26	Nov Nov Nov Oct	15	Dec Nov Nov	26 15	Dec Dec Nov Nov	7 24	
32 36 40	0 2 4	Sep Sep Aug	9	Oct Sep Sep	20	Oct Sep Sep	30	Oct Oct Sep	10	Oct Oct	21	1

Part C: Growing Season Length (Days)

-	rature			of		Than	Indicated 75%		
F	C	10%	25%		50%		15%	90%	
16	-9	305	287		268		249	231	
20	-7	263	247		. 231		215	199	
24	-4	236	221		205		189	174	
28	-2	210	196		181		166	152	
32	0	175	160		144		128	113	
36	2	146	133		119		105	92	
40	4	126	114		101		. 88	76	

Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data, 1975.

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Years of Cate 42

Startes No. 8160 Lucarion 38,14 117,200

Part A: Dates of Last Spring Documence of Low Temperature (or Lower)

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Source: U.S. Hepartment of townseed, Macional Oceania and

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APPENDIX C
AIR QUAILTY



APPENDIX C

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Percent

Location

Ambient Air Quality Standards
Geometric Mean
Federal AAQS-75 ug/m³
Nevada AAQS-60 ug/m³

24-Hour Concentration
Federal and Nevada AAQS - 150 ug/m³

(Air Quality		Number		Geometric	Percent		Number	Conce	ntration	Reducti Require Federal	
Region	Sample	Obser-	Geometric		Reduction	Required	Over	High	Second	High	Second
Number)	Period	vations	Mean	Deviation		Federal	Maximum		High		High
	JAN-MAR	13	18	2.82			0	87	59		·
	APR-JUN	10	28			U	0	72	50		
TONOPAH	JUL-SEP	15	28				0	71	41		
(147) 1974	OCT-DEC TOTAL		13				0	22	20		
	1974	48	, 20	2.03			0	87	72		
a Maria Carlo	JAN-MAR	13	12	1.54				28	20		
	APR-JUN	15	29	1.55				77	74		
TONOPAH	JUL-SEP	14	35	1.83			1	192	54	21	
(147) 1973	OCT-DEC TOTAL	14	18	2.53		3		91	36		
	1973	56	22	2.10			1	192	91	21	
	JAN-MAR										
	APR-JUN	6	28	1.46		an an		40	37		
TONOPAH	JUL-SEP	12	28	1.36		C-SIRE S		48	36		
(147) 1972	OCT-DEC TOTAL	13	17	1.57				34	28		
	1972	31	23	1.57	es es			48	40		

Assumed background level - 25ug/m³

SOURCE: State of Nevada, Environmental Protection Services, Air Quality Control, Carson City, Nevada.

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AMBIENT AIR QUALITY DATA--SUSPENDED PARTICULATES PRELIMINARY DRAFT (IN MICROGRAMS PER CUBIC METER)

Location

Ambient Air Quality Standards Geometric Mean Federal AAQS-75 ug/m³ Nevada AAQS-60 ug/m³ 24-Hour Concentration Federal and Nevada AAQS - 150 ug/m³

	(Air Qual	litv.	•		•							Percent Reducti	on	
	Control	iley.		Number							ntration	Require		
	Region		Sample			Geometric			Number	Maxim			6 Nevada	
				Obser-			Reduction		Over	High	Second	High	Second	
	Number)		Period	vations	Mean	Deviation	Nevada	Federal	Maximum		lligh		High	
			JAN-MAR		106	1.77	43	29	3	278	226 1	46	34	
7			APR-JUN	12	70		14 .		0	135	112			
	GABBS		JUL-SEP	3.	25				0	34	29	*		
	(147) 1974		OCT-DEC TOTAL	13	169		. 64	55	8	377	265	96	43	
			1974	40	75	2.25	20 .		11	377	278	96	46	
			JAN-MAR	3	59	1.19				71	57		1	
			APR-JUN	15	144	5.58	59	47	3	198	165	24		
	GABBS		JUL-SEP	14	110	1.40	45	31	3	282			9	
	(147)		OCT-DEC	15	154	1.95	61		1		136	46		
	1973	-	TOTAL	13	134	1.95	01	51	10	337	327,	55	55	
			1973	46	142	3.10	57	47	14	337 -	. 327	55	55 -	
			JAN-MAR	14	140	1.98	70	56	7	446	304	70	55	•
			APR-JUN	15	98	1.54	52	31	3	239	200	42	29	
	GABBS		JUL-SEP	15	76	1.58	31 .	2	1	216	131	35		
	(147)		OCT-DEC	-12	84	2.28	41	15	Ā	279	256	51	46	
	1972		TOTAL					-	7	-13	230	31	40	
-			1972	56	97	1.89	52	31	15	446	304	70	55	

		Primar	metric Mean ry AAQS - 2 dary AAQS -	60 ug/m ³ ,		Primary	AAQS - 260 y AAQS - :	Jug/m ³		Percent Em Reduction Achieve Pr	Required	То
	Sample Period (Number Obser- vations)	Actual	Primary	Percent Deviation Secondary AAQS	Geometric Standard Deviation GSD	Maximum Obser- vations	Percent Observa- tions Primary AAQS	Percent Observa- tions Secondary AAQS		Based Cn Geometric Mean	Based On Maxi Observa	
	JAN-MAR APR-JUN			到三.						•		
21	JUL-SEP (15) OCT-DEC	117	56	95	2.10	501	20	27		46	51	
	(6) 1971	58	-23 .	-3	2.31	209		17		-51	-28	
	(21)	96	28	60	2.26	501	. 19	· 24	•	30	51	
Assu	med Backg	round Lev	vel - 25 ug	/m3								

SOURCE: State of Nevada, Environmental Protection Services, Air Quality Control, Carson City, Nevada.

PRELIMINARY GRAFT

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APPENDIX I

SOILS

PRELIMINARY DRAFT

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TABLE D- 1 KINDS OF SOILS IN MAP UNITS AND THEIR PROPERTIES TONOPAH GRAZING ES STUDY AREA

PRELIMINARY DRAFT

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
1	Lithic Xeric Haplargids - 30 to 50% slopes very gravelly (25%)	Upland plains and mountain slopes, and foothills	black sagebrush spiny hopsage, Galleta grass	Well-drained	10 to 20 to bedrock	Moderate
	Lithic Torriorthents - 2 to 50% slopes very stony (20%) Rock Outcrop (20%)	Upland plains and mountain slopes, and foothills	black sagebrush, bud sagebrush, Galleta grass, Indian ricegrass, ephedra, Utah juniper	Well-drained	10 to 20 to bedrock	Moderately Rapid
	Typic Durorthids - 15 to 50% slopes, very cobbly (10%) (25% Inclusions)	Upland plains and mountain slopes, and foothills	Bailey greasewood, shadscale, bud sagebrush, ephedra, Galleta grass, horsebrush, desert needlegrass	Well-drained	20 to pan	Moderately Rapid
. 2	Haplic Durargids - 2 to 8% slopes, shallow, very gravelly (40%)	Outwash plains, alluvial fans, and lake terraces	Bailey greasewood, shadscale, bud sagebrush, ephedra, Galleta grass, Indian ricegrass	Well-drained	10 to 20 to pan	S1ow
	Typic Torriorthents - 0 to 8% slopes, gravelly (10%)	alluvial fans and aprons	Bailey greasewood, shadscale, bud sagebrush ephedra, Galleta grass Indian ricegrass, salt- bush	Well-drained	>60	Very Rapid
	Typic Durargids - 2 to 8% slopes, shallow, very gravelly (10%) (40% Inclusions)	broad alluvial fans	Bailey greasewood, shadscale, bud sagebrush, ephedra, Galleta grass, Indian ricegrass, salt- bush winterfat	Well-drained	10 to 20 to pan	Slow to very slow

bush, winterfat

TABLE D-1 KINDS OF SOILS IN MAP UNITS AND THEIR PROPERTIES TONOPAH GRAZING ES STUDY AREA

PRELIMINARY DRAFT

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
3	Typic Torriorthents - 0 to 4% slopes, (30%)	gently sloping alluvial fans and aprons	shadscale, bud sagebrush Galleta grass, Indian ricegrass	Well-drained	> 60	Moderately Rapid
	Typic camborthids - 0 to 4% slopes, (20%)	gently sloping, alluvial fans and aprons	spiny hop sage, bud sagebrush, fourwing saltbrush, winterfat, Indian ricegrass	Well-drained	> 60	Moderately Rapid
	Duric Camborthids - 0 to 4% slopes, (20%)	gently sloping, alluvial fans and aprons	shadscale, bud sagebrush horsebrush, Indian ricegrass	Well-drained	>60	Moderately Rapid
	Haplic Nadurargids 0 to 4% slopes, shallow, dissected (15%)	gently sloping, alluvial fans and aprons	shadscale, bud sagebrush horsebrush, Indian ricegrass, winterfat	Well-drained	10 to pan	Moderately Slow over Slow
	Typic Torrifluvents - 0 to 4% slopes, dissected (15%)	modern drainageway floodplains	black greasewood, big sagebrush, shadscale, fourwing saltbush, bud sagebrush	Well-drained	>60	Moderately Slow
4	Torriorthents - 0 to 8% slopes, gravelly, stony (90%) (10% Inclusions)	nearly level slopes of alluvial fans	shadscale, bud sagebrush Indian ricegrass, black sagebrush, sand dropseed, squirrel tail, Galleta grass, king desertgrass,	Somewhat excessive to excessive	>60	Moderately Rapid to Very Rapid
		****	Bailey greasewood			

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TABLE D- 1 KINDS OF SOILS IN MAP UNITS AND THEIR PROPERTIES TONOPAH GRAZING ES STUDY AREA

PRELIMINARY DRAFT

Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
5	Duric Haplargids - 0 to 8% slopes, gravelly (60%)	moderately sloping dis- sected alluvial fans	shadscale, bud sagebrush, Bailey greasewood, Galleta grass, Indian ricegrass	Well-drained	36 to 60	Moderately Slow to Moderately Rapid
1	Duric Haplargids - 4 to 30% slopes, very stony (15%)	Moderately sloping dis- sected alluvial fans	shadscale, bud sagebrush Bailey greasewood, Galleta grass, Indian ricegrass	Well-drained	60	Moderately Slow
	Typic Torriorthents - 0 to 8% slopes, stony, gravelly (10%) (15% Inclusions)	alluvial fans and aprons	Bailey greasewood, shadscale, bud sagebrush Galleta grass, Indian ricegrass, fourwing saltbrush	Excessive	60	Very Rapid
6	Typic Torripsamments - 0 to 30% slopes, (95%) (5% Inclusions)	lake-plain, terraces and stabilized dunes	fourwing saltbush, sand dropseed, Indian ricegrass, black greasewood, horsebrush	Somewhat excessively to excessively	> 60	Rapid to Very Rapid
7	Duric Camborthids - 0 to 2% slopes, gravelly (30%)	valley plains; alluvial fans	Bailey greasewood, wolfberry, shadscale, Indian ricegrass, bud sagebrush, black sage- brush, Galleta grass	Somewhat excessively drained	> 60	Moderately Rapid
	Entic Durorthids - mesic, 0 to 4% slopes, shallow, gravelly (25%)	valley plains; alluvial fans	Bailey greasewood, wolfberry, shadscale, Indian ricegrass, black sagebrush, bud sagebrush, Galleta grass	Well-drained	10 to 20 to pan	Moderately Rapid

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TABLE D--1
KINDS OF SOILS IN MAP UNITS AND THEIR PROPERTIES
TONOPAH GRAZING ES STUDY AREA

PRELIMINARY DRAFT

Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
7 (cont.)	Typic Camborthids - 0 to 4% slopes (20%) (25% Inclusions)	valley plains; alluvial fans	Bailey greasewood, wolfberry, shadscale, Indian ricegrass, black sagebrush, Galleta grass	Well-drained		Moderately Rapid
8	Playas	valley floor playa	barren	Poorly drained	> 60	Very Slow
9	Aquic Torriorthents - 0 to 2% slopes, saline- alkali (40%)	nearly level basins and terraces	saltgrass, black greasewood, alkali sacation	Somewhat poorly drained	→ 60	Very Slow
	Aeric Halaquepts - 0 to 2% slopes (30%) (30% Inclusions)	lake terraces, flood- plains, toe slope margins of alluvial fans	black greasewood, salt- grass, quailbush, common reedgrass, alkali cord- grass, pickleweed, Great Basin wildrye, alkali sacaton, rabbitbrush	Somewhat poorly drained	> 60	Moderately Slow
10	Aquic Calciorthids - 0 to 2% slopes, saline (20%)	on lake plains in complexes with the Natrargids	black greasewood, rabbit- brush, saltbush, salt- grass, alkali sacaton, shadscale	Poorly drained (Subject to overflow)	>60	Moderate
	Aquic Natragids - 0 to 2% slopes, saline (20%)	on lake plains in complexes with the Calciorthids	black greasewood, rabbitbrush, saltbush, saltgrass, alkali sacaton, shadscale	Poorly drained (Subject to overflow)	> 60	Slow

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Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
	Aquic Torriorthents - 0 to 2% slopes (15%)	lake plains marginal to playas	black greasewood	Poorly drained (Subject to overflow)	> 60	Slow
	Typic Torriorthents 4 to 30% slopes (10%)	Large coppice dunes of sand-sized clay aggregates	black greasewood	Well-drained	> 60	Slow
	Typic Nadurargids - 0 to 4% slopes, shallow, saline (10%)	alluvial fan toeslopes, lake plains and weathered travertine spring mounds	black greasewood, shadscale	Well-drained	10 to 20 to hardpan	Slow
	Typic Calciaquolls - 0 to 2% slopes (10%) (15% Inclusions)	seep and overflow areas below springs	native wet meadow	Poorly drained (Subject to overflow)	> 60	Slow
11	Duric Natrargids - 0 to 4% slopes, gravelly substratum (30%)	interfluves of dissected and smooth alluvial fans	shadscale, bud sage- brush, Bailey grease- wood, Galleta grass, rabbitbrush	Well-drained	18 to 30 to gravel	Slow
	Duric Natrargids - 0 to 2% slopes (30%)	smooth alluvial fan toeslopes, lacustrine plains, and basin fill	shadscale, Bailey greasewood, bud sage- brush, rabbitbrush, Galleta grass	Well-drained	18 to 26 to gravel	Moderate

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Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
	Duric Natrargids - 4 to 15% slopes gravelly substratum (10%)	smooth and dissected, middle and upper alluvial fans	shadscale, bud sage- brush, Galleta grass, rabbitbrush	Well-drained	18 to 26 to gravel	Moderate
0	Haplic Nadurargids - 0 to 2% slopes, shallow (10%) (20% Inclusions)	lake plains	black greasewood, shadscale, bud sage- brush, rabbitbrush	Well-drained	10 to 20 to hardpan	Moderate
12	Duric Camborthids - 0 to 4% slopes (30%)	smooth alluvial fans and fan toeslopes	shadscale, bud sage- brush, Indian ricegrass, Galleta grass	Well-drained	> 40	Moderately Rapid
	Typic Torriorthents - 0 to 8% slopes (30%)	dissected and smooth alluvial fans	spiny hopsage, shad- scale, bud sagebrush	Well-drained	7 to 14 to gravel	Moderately Rapid
- 10	Typic Camborthids - 0 to 4% slopes (20%) (20% Inclusions)	smooth, lower alluvial fans and fan toeslopes	shadscale, bud sage- brush, Bailey grease- wood, spiny hopsage	Well-drained	12 to 20 to gravel	Moderately Rapid
13	Haplic Durargids - 2 to 8% slopes, shallow (50%)	dissected and smooth alluvial fans (in complexes with the other Argids)	black sagebrush, shad- scale, bud sagebrush, Galleta grass	Well-drained	10 to 20 to hardpan	Slow
	Entic Durorthids - 2 to 15% slopes, shallow (15%)	smooth and dissected alluvial fans (in complexes with other Durorthids and Durargids)	rabbitbrush, shad- scale, spiny hopsage Galleta grass, Bailey greasewood	Well-drained	10 to 20 to hardpan	Moderate

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
10	Duric Camborthids - 2 to 8% slopes (10%) (25% Inclusions)	smooth, small, recent alluvial fans and drainageways	rabbitbrush, shadscale spiny hopsage, Galleta grass, Bailey grease- wood	Well-drained	10 to 20 to gravel	Moderate Rapid
14	Rubbleland and Rock outcrop (35%)	mountain slopes, cliffs, crags, summits screes, and rock table- lands	shrubs, Utah juniper, pinyon pine		1 100 year	
	Typic Durargids - 4 to 30% slopes, shallow, stony (15%)	smoothly rounded volcanic mountains and foothills at lower elevations	black sagebrush, shadscale, squirreltail grass, rabbitbrush	Well-drained	7 to 18 to hardpan	Slow
	Lithic Xerollic Haplargids - 30 to 70% slopes, slightly stony (15%)	sideslopes of broadly rounded large mountain ridges	pinyon juniper, black sagebrush, big sage- brush	Well-drained	7 to 20 to bedrock	Slow
15	(35% Inclusions) Haploxerollic Durargids - 2 to 8% slopes, shallow, very gravelly (40%)	outwash plains and alluvial fans	black sagebrush, big sagebrush, low sage- brush, Indian ricegrass	Well-drained	8	Slow
	Xeric Torriorthents - 0 to 8% slopes, gravelly (10%)	outwash plains and alluvial fans	black sagebrush, big sagebrush, low sage- brush, Indian ricegrass	Well-drained	>60	Rapid
	Xerollic Durargids - 2 to 8% slopes, shallow, gravelly (10%) (40% Inclusions)	outwash plains and alluvial fans	black sagebrush, big sagebrush, low sage- brush, Indian ricegrass	Well-drained	10 to 20 to pan	Slow

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PRELIMINARY DRAFT

Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
. 16	Duric Camborthids - 0 to 10% slopes, gravelly (90%)	smooth alluvial fans and fan toeslopes	upland greasewood, black sagebrush	Well-drained	>60	Moderately Rapid
	(10% Inclusions)			. Well-drained		Tanisi .
17	Entic Durothids - 2 to 15% slopes, stony, shallow (50%)	smooth and dissected alluvial fans	black sagebrush, pinyon juniper	Well-drained	10 to 20 to pan	Slow
	4,4					
	Typic Durorthids - 2 to 15% slopes, gravelly,	smooth and dissected alluvial fans	black sagebrush, pinyon juniper	Well-drained	10 to 20 to pan	Slow
	stony (15%)	mini militare				Utilet ee
4	Haplic Durargids - 2 to 8% slopes, gravelly, shallow (15%)	smooth and dissected alluvial fans	black sagebrush, pinyon juniper	Well-drained	10 to 20 to pan	Slow
20	(20% Inclusions) Duric Camborthids - 0 to 2% slopes, overflowed, gravelly (30%)	valley plains	greasewood, shadscale, bud sagebrush	Well-drained (occasionally over- flowed)	> 60	Moderately Rapid
	Entic Durorthids - 0 to 4% slopes, shallow gravelly, overflowed (25%)	valley plains	greasewood, shadscale, bud sagebrush	Well-drained (occasionally over-flowed)	10 to 20 to pan	Slow
	Typic Camborthids - 0 to 4% slopes, overflowed (20%) (25% Inclusions)	valley plains	greasewood, shadscale, bud sagebrush	Well-drained (occasionally over- flowed)	> 60	Moderately Rapid

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Map'Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
21	Typic Torriorthents - 0 to 4% slopes, eroded (30%)	gently sloping alluvial fans and aprons	shadscale, Galleta grass, winterfat	Well-drained	>60	Moderately Rapid
	Typic Camborthids - 0 to 4% slopes, eroded (20%)	gently sloping alluvial fans and aprons	shadscale, Galleta grass, winterfat	Well-drained	> 60	Moderately Rapid
	Duric Camborthids - 0 to 4% slopes, eroded (20%)	gently sloping alluvial fans and aprons	shadscale, Galleta grass, winterfat	Well-drained	> 60	Moderately Rapid
	Haplic Nadurargids - 0 to 4% slopes, eroded, shallow (15%)	gently sloping alluvial fans and aprons	shadscale, Galleta grass, winterfat	Well-drained	10 to 20 to pan	Moderate to Slow
	Typic Torrifluvents - 0 to 4% slopes, eroded (15%)	modern drainageway, floodplains	shadscale, Galleta grass, winterfat	Well-drained	→ 60	Moderate
22	Xeric Torriorthents - 0 to 4% slopes (30%)	gently sloping alluvial fans and aprons	big sagebrush, black sagebrush, rabbitbrush	Well-drained	>60	Moderately Rapid
	Xerollic Camborthids - 0 to 4% slopes (20%)	gently sloping alluvial fans and aprons	big sagebrush, black sagebrush, rabbitbrush	Well-drained	>60	Moderately Rapid
	Durixerollic Camborthids - 0 to 4% slopes (20%)	gently sloping alluvial fans and aprons	big sagebrush, black sagebrush, rabbitbrush	Well-drained	>60	Moderately Rapid
	Haploxerollic Nadurargids - 0 to 4% slopes, shallow (15%)	gently sloping alluvial fans and aprons	big sagebrush, black sagebrush, rabbitbrush	Well-drained	10 to 20 to pan	Moderate
	Xeric Torrifluvents - 0 to 4% slopes (15%)	modern drainageway floodplains	big sagebrush, black sagebrush, rabbitbrush	Well-drained	> 60	Moderate

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
23	Durixerollic Camborthids - 4 to 8% slopes (30%)	moderately sloping alluvial fans	black sagebrush, big sagebrush	Well-drained	> 60	Moderately Rapid
	Xerollic Durorthids - 4 to 8% slopes, shallow (25%)	moderately sloping alluvial fans	black sagebrush, big sagebrush	Well-drained	10 to 20 to pan	Moderate
	Xerollic Camborthids - 4 to 8% slopes (20%) (25% Inclusions)	moderately sloping alluvial fans	black sagebrush, big sagebrush	Well-drained	> 60	Moderate
24	Durixerollic Camborthids - 0 to2% slopes (30%)	moderately sloping alluvial fans	black sagebrush	Well-drained	> 60	Moderately Rapid
	Xerollic Durorthids 0 to 4% slopes, shallow (25%)	moderately sloping alluvial fans	black sagebrush	Well-drained	10 to 20 to pan	Moderate
	Xerollic Camborthids - 0 to 4% slopes (20%) (25% Inclusions)	moderately sloping alluvial fans	black sagebrush	Well-drained	> 60	Moderate
				,		
25	Durixerollic Natrargids - 0 to 2% slopes, saline, eroded (70%)	smooth alluvial fans or basin-fill plains	rabbitbrush, shadscale, Bailey greasewood	Well-drained .	> 60	Moderate
	eroded (70%)					
	Xerollic Natrargids - 0 to 2% slopes, saline, eroded (15%)	smooth alluvial fan footslopes	rabbitbrush, shadscale, Bailey greasewood	Well-drained	>60	Moderate
	Xeric Torriorthents - 0 to 2% slopes, saline- alkali, eroded (10%) (5% inclusions)	basin-fill plains	rabbitbrush, shadscale, Bailey greasewood	Well-drained	>60	Moderate

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
26	Haploxerollic Durargids - 2 to 8% slopes, very gravelly, shallow, dissected (40%)	outwash plains and alluvial fans	black sagebrush, big sagebrush, low sagebrush, Galleta grass, pinyon pine, Utah juniper	Well-drained	8	Slow .
	Xeric Torriorthents - 0 to 8% slopes, gravelly, dissected (10%)	outwash plains and alluvial fans	black sagebrush, big sagebrush, low sagebrush, Galleta grass, pinyon pine, Utah juniper	Well-drained	> 60	Rapid
	Xerollic Durargids 2 2 to 8% slopes, shallow, very gravelly (10%) (40% Inclusions)	outwash plains and alluvial plains	black sagebrush, big sagebrush, low sagebrush, Galleta grass, pinyon pine, Utah juniper	Well-drained	10 to 20 to pan	Moderately Rapid
28 .	Haplic Durargids - 2 to 8% slopes, shallow, very gravelly, dissected (40%)	outwash plains and alluvial fans	black sagebrush, shadscale, saltbush, winterfat, halogeton	Well-drained	8	S1ow S1ow
	Typic Torriorthents - 0 to 8% slopes, gravelly, dissected (10%)	outwash plains and alluvial fans	black sagebrush, shadscale, saltbush, winterfat, halogeton	Well-drained	> 60	Rapid
	Typic Durargids - mesic, very gravelly, dissected (10%) (40% Inclusions)	outwash plains and alluvial fans	black sagebrush, shadscale, saltbush, winterfat, halogeton	Well-drained	10 to 20 to pan	Moderately Rapid

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
29	Torriorthents - 0 to 10% slopes, gravelly (40%)	alluvial fans and toe- slopes of alluvial fans	shadscale, winterfat	Well-drained	> 60	Moderately Rapid
	Duric Haplargids - 0 to 10% slopes gravelly (35%)	alluvial fans and toe- slopes of alluvial fans	shadscale, bud sagebrush, winterfat, Galleta grass, Indian ricegrass	Well-drained .	> 60	Moderate
	Duric Camborthids — 0 to 10% slopes, gravelly (20%) (5% inclusions)	alluvial fans and toe- slopes of alluvial fans	shadscale, bud sagebrush, winterfat, Galleta grass, Indian ricegrass	Well-drained	> 60	Moderately Rapid
30	Duric Camborthids - 11 to 25% slopes, very gravelly (35%)	sloping and moderately steep, alluvial fans and pediment remnants	big sagebrush, grease- wood	Well-drained	> 60	Moderately Rapid
	Duric Camborthids - 11 to 25% slopes, stony (35%)	sloping and moderately steep, alluvial fans and pediment remnants	big sagebrush, grease- wood	Well-drained	> 60	Rapid
	Torriorthents - 11 to 25% slopes, gravelly (20%)	sloping and moderately steep, alluvial fans and pediment remnants	big sagebrush, grease- wood	Well-drained	> 60	Moderately Rapid
	Durorthids - 11 to 25% slopes, shallow (10%)	sloping and moderately steep, alluvial fans and pediment remnants	big sagebrush, grease- wood	Well-drained	10 to 20 to pan	Moderately Rapid

PRELIMINARY DRAFT

Depth to

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
31	Aquic Calciorthids - 0 to 2% slopes, saline, eroded (20%)	on lake plains in com- plexes with the Natrargids	black greasewood, rabbit- brush, saltbrush, salt- grass, alkali sacaton, shadscale	Poorly drained (Subject to overflow)	>60	Slow
	Aquic Natragids - 0 to 2% slopes, saline, eroded (20%)	on lake plains in com- plexes with the Calciorthids	black greasewood, rabbit- brush, saltbush, salt- grass, alkali sacaton, shadscale	Poorly drained (Subject to overflow)	> 60	Slow
	Aquic Torriorthents - 0 to 2% slopes, eroded (15%)	lake plains marginal to playas	black greasewood	Poorly drained (Subject to overflow)	>60 '	Slow
	Typic Torriorthents - 4 to 30% slopes, eroded (10%)	large coppice dunes of . sandsized clay aggregates	black greasewood	Well-drained	> 60	Slow
	Typic Nadurargids - 0 to 4% slopes, shallow, saline, eroded (10%)	alluvial fan toeslopes, lake plains and weathered travertine spring mounds	black greasewood, shadscale	Well-drained	10 to 20 to hardpan	S1ow
	Typic Calciaquolls - 0 to 2% slopes, eroded (10%) (Inclusions 15%)	seep and overflow areas below springs	native wet meadow	Poorly drained (Subject to overflow)	> 60	Slow
32	Typic Torriorthents - 0 to 4% slopes, dissected (30%)	gently sloping alluvial fans and aprons	shadscale, bud sage- brush, Galleta grass	Well-drained	7 60	Moderately Rapid

Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
	Typic Camborthids - 0 to 4% slopes, dissected (20%)	gently sloping alluvial fans and aprons	shadscale, bud sage- brush, Galleta grass	Well-drained	> 60	Moderately Rapid
	Duric Camborthids - 0 to 4% slopes, dissected (20%)	gently sloping alluvial fans and aprons	shadscale, bud sage- brush, Galleta grass	Well-drained	> 60	Moderately Rapid
	Haplic Nadurargids - 0 to 4% slopes, shallow, dissected (15%)	gently sloping alluvial fans and aprons	shadscale, bud sage- brush, Galleta grass	Well-drained	10 to 20 to pan	Moderate
	Typic Torrifluvents - 0 to 4% slopes, dissected (15%)	modern drainageway, floodplains	shadscale, bud sage- brush, Galleta grass	Well-drained	>60	Moderate
34 .	Xerollic Durorthids - 15 to 30% slopes, dissected (40%)	dissected pediment side- slopes and ridges	pinyon pine, Utah juniper, ephedra	Well-drained	30 to 40 to pan	Moderate
	Xerollic Paleargids - 15 to 30% slopes (20%)	dissected remnants of alluvial fans and pediments	pinyon pine, black sagebrush, squirreltail, Galleta grass	Well-drained	30 to 40 to pan	Moderately Rapid
	Typic Durorthids - 15 to 30% slopes, dissected (20%)	deeply dissected pediment sideslopes	Utah juniper, big sagebrush	Well-drained	30 to 40 to pan	Moderately Rapid
	Haploxerollic Durorthids - 15 to 30% slopes (10%)	deeply dissected pediment sideslopes	Utah juniper, big sagebrush, Indian ricegrass	Well-drained	20 to 30 to pan	Moderate
	Typic Torripsamments - 4 to 15% slopes, dissected (10%)	deeply dissected, broad pediment ridge	pinyon pine, big sage- brush	Well to somewhat excessive	> 60	Rapid

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
35	Typic Camborthids - 0 to 10% slopes (30%)	stream terraces	big sagebrush, spiny hop- sage, Indian ricegrass, Russian thistle	Well-drained	>40	Moderate
	Xerollic Camborthids - 0 to 10% slopes (30%)	stream terraces, valley bottoms, relict flood-plains	big sagebrush, rabbit- brush, Indian ricegrass	Well-drained	> 40	Moderate
	Xeric Torrifluvents 0 to 10% slopes (30%) ¹ (10% Inclusions)	relict floodplains	big sagebrush, spiny hopsage, Indian ricegrass, winterfat, shadscale	Well-drained	>40	Moderate
36	Typic Camborthids - 0 to 10% slopes (50%)	alluvial fan	big sagebrush, rabbit- brush, Galleta grass, winterfat, shadscale	Well-drained	>40	Moderately Rapid
	Typic Durargids - 0 to 10% slopes (30%)	alluvial fan	rabbitbrush, bud sage- brush, sand dropseed	Well-drained	20 to 30 to pan	Slow
	Xerollic Haplargids - 0 to 10% slopes (15%)	allưvial fan	big sagebrush, Galleta grass, shadscale,	Well-drained	>40	Moderately Rapid
	(5% Inclusions)		rabbitbrush	to the late of the		
37	Torriorthents - 0 to 8% slopes, gravelly,	nearly level slopes of alluvial fans	low sagebrush, shadscale	Excessive	> 60	Rapid

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
. 40	Aridic Haploxerolls - 15 to 50% slopes, stony (30%)	mountain sideslopes, shoulders and crests	pinyon pine, big sage- brush, black sagebrush	Well-drained	> 40	Moderate
	Aridic Argixerolls - 8 to 50% slopes, stony (30%)	mountain sideslopes, shoulders and crests	black sagebrush, mountain mahogany, snowberry, big sagebrush, pinyon pine,	Well-drained	> 40	Moderatelý Slow
	of the Sale and Lines (Asset)		Utah juniper, bitterbrush			
	Lithic Xerollic Haplargids - 30 to 70% slopes, stony (15%)	mountain sideslopes, shoulders and crests	low sagebrush, black sagebrush, big sage- brush, pinyon pine	Well-drained	10 to 20 to bedrock	Moderate
	Lithic Camborthids - 4 to 30% slopes, gravelly (15%) (10% Inclusions)	dissected, moderately steep, mountain lands and pediment sideslopes	pinyon pine, Utah juniper, black sage- brush, bitterbrush, big sagebrush	Well-drained	10 to 20 to bedrock	Moderate
41 , .	Xerollic Paleargids - 4 to 15% slopes, gravelly, stony (35%)	pediment footslopes, alluvial fan remnants	black sagebrush, shadscale, big sage- brush, rabbitbrush, Galleta grass	Well-drained	> 40	Slow
	Xerollic Durargids - 2 to 8% slopes, gravelly and stony (45%) (20% Inclusions)	smooth and dissected alluvial fans	black sagebrush, big sagebrush, Galleta grass	Well-drained	20 to 30 to pan	Slow
44	Lithic Xerollic Haplargids - 15 to 50% slopes (40%)	mountain slopes, foot- hills and pediments	black sagebrush, blue- grass, Indian ricegrass, needlegrass	Well-drained	10 to 20 to bedrock	Moderately Slow

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Depth to Bedrock or Hardpan (inches)	Profile Perme- ability
44	Lithic Torriorthents - 8 to 50% slopes (20%) Rock outcrop (20%) (20% Inclusions)	mountain slopes, foot- hills and pediments	black sagebrush, ephedra, Indian ricegrass, Galleta grass, bud sagebrush, shadscale	Well-drained	10 to 20 to bedrock	Moderate
48	Lithic Haplargids - 8 to 50% slopes, stony (35%)	mountain slopes and rolling hills	shadscale, menodora, fourwing saltbush, ephedra, Indian rice- grass, Galleta grass	Well-drained	10 to 20 to bedrock	Moderately Slow
	Lithic Haplargids - { 4 to 15% slopes, stony (25%)	rolling foothills	shadscale, kochia, menodora, ephedra	Well-drained	10 to 20 to bedrock	Moderately Slow
	Lithic Xerollic Haplargids - 4 to 30% slopes, stony (15%) (25% Inclusions)	mountain slopes and rolling hills	black sagebrush, rabbit- brush, spiny hopsage, yucca, Galleta grass, pinyon pine, juniper	Well-drained	10 to 20 to bedrock	Moderately Slow
49	Duric Haplargids - 0 to 8% slopes, gravel substratum, stony (75%) (25% Inclusions)	alluvial fans	upland greasewood, shadscale, wolfberry, ephedra, Galleta grass, dalea	Well-drained	> 60	Moderately Slow
56	Lithic Haplargids - 4 to 30% slopes, stony (40%) Roc outcrop (30%)	mountain slopes and rolling hills	shadscale, menodora, fourwing saltbush, ephedra, Indian rice- grass, Galleta grass	Well-drained	10 to 20 to bedrock	Moderately Slow
	Lithic Haplargids - 4 to 30% slopes (20%) (10% Inclusions)	mountain slopes and rolling hills	shadscale, menodora, rabbitbrush, ephedra, Indian ricegrass, desert needlegrass,	Well-drained	10 to 20 to bedrock	Slow

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical . Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
58	Typic Durargids - 0 to 4% slopes, shallow (50%)	alluvial fans	shadscale, ephedra, rabbitbrush, bud sage- brush, winterfat	Well-drained	10 to 20 to hardpan	Moderately Slow
			,			
	Duric Haplargids - 4 to 15% slopes, gravel sub- stratum, dissected (30%) (20% Inclusions)	alluvial fans	upland greasewood, shadscale, ephedra, Galleta grass, bud sagebrush	Well-drained	> 60	Moderately Slow
59	Typic Torriorthents - 2 to 8% slopes (40%)	alluvial fans	shadscale, upland greasewood, wolfberry, Indian ricegrass	Somewhat excessive	> 60 '	Rapid
	Typic Torripsamments 2 to 8% slopes (20%)	alluvial fans	shadscale, upland greasewood, wolfberry, Indian ricegrass	Excessive	> 60	Very Rapid
	Duric Haplargids - 4 to 15% slopes, stony (20%)	alluvial fans	shadscale, upland greasewood, ephedra,	Well-drained	> 60	Moderately Slow
	(20% Inclusions)		Galleta grass, bud sagebrush	,		Side .
60	Rock outcrop - (50%)					
	Lithic Torripsamments - 30 to 50% slopes (20%)	mountain slopes	black sagebrush, juniper, shadscale squirreltail, rabbitbrush	Excessive	10 to 20 to bedrock	Very Rapid
	Xeric Torripsamments - 30 to 50% slopes, shallow (20%) (10% Inclusions)	mountain slopes	black sagebrush, juniper, squirreltail, rabbit- brush, Indian ricegrass	Excessive	10 to 20 to paralithic contact	Very Rapid

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Map Unit Symbol	Constituent Soils or . Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
62	Lithic Haplargids - 4 to 15% slopes, (40%)	rolling hills	shadscale, ephedra, upland greasewood, bud sagebrush, Indian	Well-drained	10 to 20 to bedrock	Moderately Slow
	Rock outcrop - (30%)	allower for	ricegrass, Galleta grass			-
	Typic Haplargids - 4 to 15% slopes, stony (20%) (10% Inclusions)	alluvial fans	shadscale, ephedra, up- land greasewood, bud sagebrush, Indian ricegrass	Well-drained	> 60	Moderately Slow
63	Typic Torriorthents - 0 to 2% slopes, flooded, saline (50%)	floodplains, and basins	black greasewood, kochia, shadscale, saltgrass	Moderately well	> 60	Moderately Rapid
	Typic Torriorthents - 0 to 4% slopes (30%) (20% Inclusions)	alluvial fans	wolfberry, upland greasewood, kochia, shadscale, Indian ricegrass	Somewhat excessive	> 60	Rapid
64	Haplic Durargids - 2 to 8% slopes, very stony (40%)	alluvial fans	upland greasewood, shadscale, bud sage- brush, ephedra, Galleta grass, Indian ricegrass	Well-drained	10 to 20 to pan	Moderately Slow
	Typic Torriorthents - 2 to 8% slopes, stony (30%)	alluvial fans	upland greasewood, shadscale, bud sage- brush, fourwing salt- bush, Indian ricegrass	Somewhat excessive	>60	Rapid
	Typic Durargids - 2 to 8% slopes, shallow, stony (15%) (15% Inclusions)	alluvial fans	upland greasewood, shadscale, bud sage- brush, Galleta grass, Indian ricegrass	Well-drained	10 to 20 to pan	Moderately Slow

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
66	Duric Camborthids - 0 to 2% slopes (40%)	basins, low terraces and alluvial fans	upland greasewood, shad- scale, bud sagebrush, wolfberry, kochia, Indian ricegrass	Well-drained	>60	Moderately Rapid
	Typic Camborthids - 0 to 2% slopes, saline (30%)	alluvial fans	upland greasewood, shad- scale, bud sagebrush, Indian ricegrass, Galleta grass	Well-drained	>60	Moderately Rapid
	Entic Durorthids - 0 to 2% slopes, shallow, saline (20%) (10% Inclusions)	basins and low terraces	upland greasewood, shad- scale, wolfberry, bud sagebrush, kochia	Well-drained	10 to 20 to pan	Moderately Rapid
67	Typic Torriorthents - 2 to 8% slopes, cobbly (40%)	alluvial fans	upland greasewood, wolf- berry, kochia, shadscale (very low density)	Well-drained	60	Moderately Rapid
	Typic Natrargids - 2 to 8% slopes, cobbly, shallow (20%)	alluvial fans	shadscale, bud sagebrush, ephedra, upland grease- wood, Galleta grass (very low density)	Well-drained	10 to 20 to paralithic contact	Moderately Slow
	Duric Haplargids - 2 to 8% slopes, very stony (20%) (20% Inclusions)	alluvial fans	upland greasewood, shad- scale, ephedra, Galleta grass, bud sagebrush (very low density)	Well-drained	60	Moderately Slow
68	Rock outcrop - (40%)					
	Lithic Xerollic Haplargids - 15 to 50% slopes (30%)	mountain and hill slopes	black sagebrush, ephedra, bluegrass, Indian rice- grass, spiny hopsage, needlegrass, horsebrush	Well-drained	10 to 20 to bedrock	Moderately Slow

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Constituent Soils or Map Unit Land Types in Map Unit Symbol and Approximate Proportions	Physiographic Position	Typical Vegetation	Soil Drainage Class	Bedrock or Hardpan (inches)	Profile Perme- ability
Lithic Torriorthents - 15 to 50% slopes (20%) (10% Inclusions)	mountain and hill slopes	black sagebrush, ephedra, shadscale, Indian ricegrass, Galleta grass, horsebrush	Well-drained	10 to 20 to bedrock	Moderatel Rapid
72 Lithic Haplargids - 15 to 50% slopes (50%)' Rock outcrop (40%)	mountain slopes and rolling hills	shadscale, rabbit- brush, menodora, ephedra, Indian	Well-drained .	10 to 20 to bedrock	Slow
(10% Inclusions)	Modernice Bloght St	ricegrass, desert needlegrass, buckwheat	the real drounds.		2

Abbreviations used in this table:

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PRELIMINARY DRAFT

TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g		Hazard f/ Wind	Unified Class <u>i</u> /	Available Water-Holding Capacity (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
1	Lithic Xeric Haplargids - 30 to 50% slope, very gravelly (25%)	D	Moderate	Slight	GM-GC or G-C	Very low	Very poor: steep slopes; droughtiness	Rapid	8 to 12
	Lithic Torriorthents - 2 to 50% slopes, very stony (20%)	D	Moderate	Slight	GM	Very low	Very poor: droughtiness; steep slopes	Very Rapid	6 to 10
	Rock Outcrop (20%)					- **	Tory Divis Amagina-		
	Typic Durorthids - 15 to 50% slopes, very cobbly (10%)	D	Slight	Slight	SM or SM-SC	Very low	Very poor: steep slopes; droughtiness; >50% surface cobbles	Medium	6 to 8
	Inclusions (25%)							19.11.	
2	Haplic Durargids - 2 to 8% slopes, very gravelly (40%)	D	Moderate .	Slight	SM or GC over GP, GM or GW	Very low	Very poor: droughti- ness; very low AWHC	Medium to Rapid	4 to 7
	Typic Torriorthents - 0 to 8% slopes, gravelly (10%)	В	Moderate	Slight	GP-GM cver GP or GP-GM	Very,low	Very poor: droughti- ness, very low AWHC	Very slow to medium	4 to 7
	Typic Durargids - 2 to 8% slopes, shallow, very gravelly (10%)	.D	Moderate	Slight	SM over GM-GC or GC	Very low	Very poor: droughti- ness, very low AWHC	Rapid	4 to 7
	Inclusions (40%)					See See			
3	Typic Torriorthents - 0 to 4% slopes, (30%)	В	Moderately low	Severe	SM	Moderate to high	Very poor: AAP <8 in.	Slow to medium	4 to 7
	Typic Camborthids - 0 to 4% slopes, (20%)	В	Slight to moderate	Slight	SM	Moderate	Very poor: AAP <8 in.	Medium	4 to 7
	Duric Camborthids - 0 to 4% slopes, (20%)	В	Slight	Moderate	SM	Moderate	Very poor: AAP <8 in.	Slow to medium	4 to 7

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TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Land Types in Map Unit	Soil Hydro- logic Group g/	, Erosion Water	Hazard <u>f</u> / Wind	Unified Class $ ilde{ ilde{1}}$	Available Water-Holding Capacity (AWHC) <u>a</u> /	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
	Haplic Nadurargids - 0 to 4% slopes, shallow, dissected (15%)	D	Slight	Slight	ML or SM	Very low	Very poor: shallow to indurated pan; AAP <	Very slow	4 to 7
	Typic Torrifluvents - 0 to 4% slopes, dissected (15%)	В	Slight	Slight	CL	High	Very poor: AAP < 8 in., dissected	Slow	4 to 7
4	Torriorthents - 0 to 8% slopes, gravelly stony (90%)	В	Slight to Moderate	Slight to Moderate	GP, GM, SM	Low	Very poor: droughtiness, low AWHC, AAP < 8 in.	Very slow to medium	4 to 7
	Inclusions (10%)								
5	Duric Haplargids - 0 to 8% slopes, gravelly (60%)	С	Slight to Moderate	S1ight	GC over GP, SM over SC and SM	Low to Moderate	Very poor: droughtiness, low AWHC, AAP <	Medium to rapid	4 to 7
	Duric Haplargids - 4 to 30% slopes, very stony (15%)	С	Slight	Slight .	GC over GP-GM	Low	Very poor: droughtiness, low AWHC, AAP	Medium	4 to 7
	maria mandanta o		01:-1-4		CD CM	*	V	W1	4 4- 7
	Typic Torriorthents - 0 to .8% slopes, stony, gravelly (10%)	В	Slight	Slight	GP or GM	Low	Very poor: droughtiness, low AWHC, AAP & in.	Very slow to medium	4 to 7
	Inclusions (15%)						Tim part Ca lader		
. 6	Typic Torripsamments - 0 to	Α	High .	Severe	SM	Low to	Very poor: droughti-	Very slow	4 to 7
	30% slopes (95%)		In least of	illight		Moderate	ness, slope gradient		
	Inclusions (25%)				*				
7	Duric Camborthids - 0 to 2% slopes, gravelly (30%)	С	Low	Moderate	SM over SP-SM	Low	Very poor: droughti- ness, AWHC	Slow	4 to 7
	Entic Durorthids - 0 to 4% slopes, shallow, gravelly (25%	D (4)	Low	Slight	SM,ML	Very low	Very poor: droughtiness, AHWC	Slow	4 to 7

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Inclusions (15%)

TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/	Erosion Water	Hazard <u>f</u> / Wind	Unified Class i	Water-Holding Capacity / (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Precipitation (inches) (AAP) b/
	Typic Camborthids - 0 to 4% slopes (20%)	В	Low	Severe	SM,ML	Moderate	Very poor: AAP < 8 in.	Slow .	4 to 7
	Inclusions (25%)								
8	Playas	D	Low	Slight	CH or CL	High	Very poor: ESP > 15%, $\frac{d}{AAP}$ & in.	Ponded	4 to 7
9	Aquic Torriorthents - 0 to 2% slopes, saline alkali (40%)	D	Slight	Slight	CL,CH	High		ery slow co ponded	4 to 7
	Aeric Halaquepts - 0 to 2% slopes (30%) Inclusions (30%)	C	Slight	Slight	ML,C1	High	1	very slow to ponded	4 to 7
10	Aquic Calciorthids - 0 to 2% slopes, saline (20%)	С	Low .	Moderate	ML or CL	High	Very poor: E.C. x 10 ³ e/ \ >4 AAP < 8 in.	ery slow	4 to 7
	Aquic Natragids - 0 to 2% slopes, saline (20%)	D	Low	Slight	CH	High	Very poor: E.C. x 10 ³ V > 4 AAP < 8 in.	Very slow	4 to 7
	Aquic Torriorthents - 0 to 2% slopes (15%)	Ď	Low	Slight	CL or CH	High	Very poor: < 8 inches AAP	Slow	4 to 7
	Typic Torriorthents - 4 to 30% slopes (10%)	D	Moderately High	Slight	CL or CH	High	Very poor: < 8 inches AAP	Slow	4 to 7
	Typic Nadurargids - 0 to 4% slopes, shallow, saline (10%)	D	Moderately Low	Slight	ML-CL	Low	Very poor: shallow depth to indurated pan, < 8 in AAP; E.C. x 10 ³ >4		4 to 7
	Typic Calciaquolls - 0 to 25% slopes (10%)	D	Low	Slight	ML or CL	High	Very poor: < 8 inches AAP	Slow	4 to 7
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TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Land Types in Map Unit	Soil Hydro- logic Group g		Hazard <u>f</u> / Wind	Unified Class \underline{i}_j	Available Water-Holding Capacity (AWHC) a/	Suitability for Rangeland Seeding <u>e</u> /	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
11	Duric Natrargids - 0 to 4% slopes gravelly substratum	D	Moderately low	Moderate	CH or CL over	Moderate	Very poor: ESP 5-15% <8 inches AAP	Slow	4 to 7
	(30%)				GM			· Ismail no	
	Duric Natrargids - 0 to 2% slopes (30%)	С	Low	Moderate	ML or CL over	Moderate	Very poor: ESP 5-15% <pre></pre>	Slow	4 to 7
		* 0			SP or GP				
	Duric Natrargids - 4 to 15%	С	Moderate	Moderate	ML or CL	Moderate	Very poor: ESP 5-15%	Medium	4 to 7
	slopes (10%)				over SP or GP		<pre><8 inches AAP</pre>		
	Haplic Nadurargids - 0 to 2% slopes, shallow (10%)	D	Low	Moderate	CL above hardpan, GP below hardpan	Very low	Very poor: shallow to indurated pan; AAP 8 in.	Slow	4 to 7
6	Inclusions (20%)								Emile .
. 12	Duric Camborthids - 0 to 4% slopes (30%)	В	Moderately low	Moderate	SM	Low to moderate	Very poor: low AWHC AAP < 8 in.	Medium	4 to 7
	Typic Torriorthents - 0 to 89	В	Moderate	Slight	GM	Low to	Very poor: low AWHC	Medium	4 to 7
	slopes (30%)					moderate	AAP < 8 in.		
	Typic Camborthids - 0 to 4% slopes (20%)	В	Moderately low	Moderate	GM	Low to moderate	Very poor: low AWHC AAP < 8 in.	Medium	4 to 7
	(20% Inclusions)								
13	Haplic Durargids - 2 to 8% slopes, shallow (50%)	D	Moderately low	Slight	CH or CL to hardpan	Very low	Very poor: shallow depth to indurated pan; AAP <a>8 in.	Medium	4. to 7
	Entic Durorthids - 2 to 8% slopes, shallow (15%)	D	Moderately low	Slight	SM or ML to hardpan	Very low	Very poor: shallow depth to indurated pan; AAP	Medium	4 to 7
	Duric Camborthids - 2 to 8% slopes (10%)	В	Moderately low	Slight	GM	Low	<pre></pre>	Medium	4 to 7

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TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Constituent Soils or Lang Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/		Hazard <u>f</u> / Wind	Unified Class	Available Water-Holding Capacity i/ (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
	Inclusions (25%)					New Year			
14	Rubbleland and Rock Outcrop (35%)	D	Low	Slight		Very low	Very poor: droughty, content of rock outcrop	Rapid to Very rapid	8 to 12
100				SUME			and surface stones > 90%	· · · · · · · · · · · · · · · · · · ·	
	Typic Durargids - 4 to 30% slopes, shallow, stony (15%)	D	Moderately High	Slight	СН	Very low	Very poor: very low AWHC shallow to indurated pan		8 to 12
	Lithic Xerollic Haplargids - 30 to 70% slopes, slightly stony (15%)	D	Moderate	Slight	CL or CH	Very low	Very poor: slope > 30% shallow to bedrock, very low AWHC	Rapid	8 to 12
	Inclusions (35%)				•			Telepast .	
15	Haploxerollic Durargids - 2 to 8% slopes, shallow,	D	Slight ·	Slight	SM or GC	Very low	Very poor: shallow to indurated pan, very	Medium	8 to 15
	very gravelly (40%)		the second		GP, GM or GW		low AWHC		
	Xeric Torriorthents - 0 to 8% slopes, gravelly (10%)	В	Slight	Slight	GP-GM over GP or GP-GM	Very low	Very poor: low AWHC	Slow	8 to 15
123	Xerollic Durargids - 2 to 8% slopes, shallow, gravelly (10%)	D	Moderate	Slight	SM over GM-GC or GC	Very low	Very poor: shallow to indurated par; very low AWHC	Slow to Medium	8 to 15
	Inclusions (40%)						100 AMAG		3.46.7
16	Duric Camborthids - 0 to 10% slopes, gravelly (90%)	В	Moderately low	Moderate	SM	Low to moderate	Very poor: AAP < 8 in.	Medium	4 to 7
	Inclusions (10%)								
17	Entic Durothids - 2 to 15% slopes, stony, shallow (50%)	D	Moderately low	Slight	SM or ML to hardpan	Very low	Very poor: shallow to indurated pan; AAP < 8 in.	Medium .	4 to 7

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TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/	Erosion H	azard <u>f</u> / Wind	Unified Class $\frac{\mathrm{i}}{2}$	Available Water-Holding Capacity (AWHC) a/	Suitability for Rangeland Seeding <u>e</u> /	Runoff h/	Average An Precipita (inches (AAP)	ation s)
	Typic Durorthids - 2 to 15% slopes, gravelly, shallow, stony (15%)	D _.	Moderate	Slight	SM or ML to hardpan	Very low	Very poor: shallow to indurated pan, AAP < 8 in.	Medium	4 to 7	7
	Haplic Durargids - 2 to 15%	D	Moderately	Slight	CH or CL	Low to	Unsuited	Medium	4 to 7	,
	slopes, gravelly shallow (15%) Inclusions (20%)) .	low		to hardpan	very low				
20	Duric Camborthids - 0 to 2% slopes, gravelly, overflowed (30%)	С	Moderately low	Slight	SM or GP	Low	Very poor: low AWHC; AAP < 8 in.	Slow	4 to 7	7
	Entic Durorthids - 0 to 4% slopes, shallow, gravelly, overflowed (25%)	Ď ·	Moderately low	Slight	SM or ML to pan	Very low	Very poor: very low AWHC; shallow to pan; AAP < 8 in.	Slow	4 to 7	,
	Typic Camborthids - 0 to 4% slopes, overflowed (20%)	В	Moderately low	Moderate	SM	Low	Very poor: low AWHC, AAP <8 in.	Slow to medium	4 to 7	7
	Inclusions (25%)				, comb	Van in				
21	Typic Torriorthents - 0 to 4% slopes, eroded (30%)	С	High	Severe	SM	Moderate	Very poor: AAP < 8 in.	Slow to medium	4 to 7	7
	Typic camborthids - 0 to 4% slopes, eroded (20%)	В	High	Severe	SM	Low	Very poor: AAP < 8 in. Low AWHC	Slow to medium	4 to.7	7
7.22	Duric Camborthids - 0 to 4% slopes, eroded (20%)	В	High	Severe	SM	Low	Very poor: AAP < 8 in. low AWHC	Slow to medium	4 to 7	7
	Haplic Nadurargids - 0 to 4% slopes, eroded, shallow (15%)	D	High	Severe	ML	Low	Very poor: shallow to indurated pan, AAP < 8 in.; severe erosion	Slow to medium	4 to 7	7
,	Typic Torrifluvents - 0 to 4% slopes, eroded (15%)	В	High	Severe	CL	High	Very poor: AAP < 8 in. severe erosion	Slow to medium	4 to 7	7

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Inclusions (25%)

TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

PRELIMINARY DRAFT

Map Unit Symbol	Land Types in Map Unit	Soil Hydro- logic Group g/	Erosion H	Mazard <u>f</u> /	Unified Class <u>i</u> /	Available Water-Holding Capacity (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
22	Xeric Torriorthents - 0 to 4% slopes (30%)	C -	Slight to high	Slight	SM	Moderate to high	Fair: AAP <12 in.	Slow to medium	8 to 11
	Xerollic Camborthids - 0 to 4% slopes (20%)	В	Slight to moderate	Slight	SM	Moderate	Fair: AAP <12 in.	Slow to medium	8 to 11
	Durixerollic Camborthids - 0 to 4% slopes (20%)	В	Slight	Moderate	SM	Moderate	Fair: AAP <12 in.	Slow to medium	8 to 11
	Haploxerollic Nadurargids - 0 to 4% slopes, shallow (15%)	D	Slight	Slight	ML over SM over CL	Very low	Very poor: shallow to indurated pan; very low AWHC	Slow to medium	8 to 11
	Xeric Torrifluvents - 0 to 4% slopes (15%)	В	Slight	Slight	CL	High	Fair: high AWHC; AAP <12 in.	Slow to medium	8 to 11
23	Durixerollic Camborthids - 4 to 8% slopes (30%)	С	Moderate	Slight	SM or GP	Low	Poor: low AWHC	Medium	8 to 11
	Xerollic Durorthids - 4 to 8% slopes, shallow (25%)	D	Moderately low	Slight	SM or ML to pan	Very fow	Very poor: shallow to pan; very low AWHC	Medium	8 to 11
	Xerollic Camborthids - 4 to 8% slopes (20%)	B	Moderate	Slight	SM	Moderate	Fair: AAP < 12 in., moderate AWHC	Medium	8 to 11
	Inclusions (25%)					1			
24	Durixerollic Camborthids - 0 to 2% slopes (30%)	С	Slight	Slight	SM or GP	Low	Poor: low AWHC	Medium	8 to 15
	Xerollic Durorthids - 0 to 4% slopes (25%)	D	Slight to moderate	Slight	SM or ML to pan	Very low	Very poor: shallow to pan; very low AWHC	Medium	8 to 15
	Xerollic Camborthids - 0 to 4' slopes (20%)	% В	Slight to moderate	Slight	SM	Moderate	Fair: AAP <12 in., moderate AWHC	Medium	8 to 15

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P	Constituent Soils or	Soil Hydro-	TONOPA	H GRAZING ES	STUDY AREA SOIL I	Available Water-Holding	PRELIMINARY	DRAFT	Average Annual Precipitation
Map Unit Symbol	Land Types in Map Unit & Approximate Proportions	logic Group g/	Erosion Water	Hazard f/ Wind	Unified Class	Capacity i/ (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	(inches) (AAP) <u>b</u> /
25	Durixerollic Natrargids - 0 2% slopes, saline, eroded	C _.	High	Moderate	ML or CL	High	Very poor: E.C.x10 ³ >4, severe erosion, ESP 5-	Slow	8 to 11
	(70%)					TO THE	15%	,	
	Xerollic Natrargids - 0 to 2% slopes, saline, eroded (15%)	С	High	Moderate	SC over SM	High	Very poor: E.C.x10 ³ >4, severe erosion	Slow	8 to 11
	Xeric Torriorthents - 0 to 2% slopes, saline-alkali, eroded (10%)	С	High	Severe	SM	Moderate	Very poor: E.C.x10 ³ >4, severe erosion, ESP 5-15%	Slow	8 to 11
	Inclusions (5%)								
26	Haploxerollic Durargids - 2 to 8% slopes, very gravelly shallow, dissected (40%)	D	Slight	Slight .	. SM	Very low	Very poor: shallow to pan, very low AWHC, >50% surface gravels	Medium to rapid	8 to 15
	Xeric Torriorthents - 0 to 8% slopes, gravelly, dissected, (10%)	В	Slight	Slight	GP or GM	Very low	Very poor: very low AWHC;dissected	Very slow to medium	8 to 15
	Xerollic Durargids - 0 to 8%	D	Slight	Slight	SM	Very low	Very poor: very low	Medium	8 to 15
	slopes, shallow, dissected, very gravelly (10%)			22-8	Do no In	, , , , , , , , , , , , , , , , , , ,	AWHC; dissected	to rapid	0 00 13
	Inclusions (40%)		*				taligated na		
28	Haplic Durargids - 2 to 8% slopes, shallow, dissected,	D	Slight	Slight	SM	Very low	Very poor: shallow to indurated pan; AAP < 8	Medium to rapid	4 to 7
	very gravelly (40%)						in.; very low AWHC		
	Typic Torriorthents - 0 to 8% slopes, gravelly, dissected, (10%)	В	Slight	Slight	GP or GM	Very low	Very poor: very low AWHC, AAP < 8 in.	Very slow to medium	4 to 7
	Typic Durargids - 2 - 8% slopes, shallow, dissected very gravelly (10%)	D	Slight	Slight	SM	Very low	Very poor: shallow to pan, very low AWHC, AAP< 8 in.	Medium to rapid	4 to 7

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group	Erosion Water	Hazard Wind	Unified Class	Available Water-Holding Capacity (AWHC)	Suitability for Rangeland Seeding	Runoff	Average Annual Precipitation (inches) (AAP)
	Inclusions (40%)								
29	Torriorthents - 0 to 10% slopes, gravelly (40%)	В	Slight to high	Severe	SM	Moderate to high	Very poor: AAP < 8 in.	Slow to medium	4 to 7
	Duric haplargids - 0 to 10% slopes, gravelly (35%)	В	Moderate	Slight	ML or CL over SP or GP	Moderate	Very poor: AAP < 8 in.	Medium	4 to 7
	Devis Combonabile O.		We described	Mod reside	C) (M. Laureta	Market Market Market		4
	Duric Camborthids - 0 to 10% slopes, gravelly (20%)	В	Moderately low	Moderate	SM	Moderate	Very poor: AAP < 8 in.	Slow to medium	4 to 7
	Inclusions (5%)						Calca Associa, inv		F 100 161
30	Duric Camborthids - 11 to 25% slopes, very gravelly	В	Moderate	Moderate	SM	Moderate	Very poor: >50% surface gravels and cobbles	e Medium to rapid	4 to 10
	(35%)					helmate			4 25 7
٠	Duric Camborthids - 11 to 25% slopes, stony (35%)	В	Moderate	Slight	GM	Low	Poor: <10 in. AAP, 100 AWHC, 15% surface	w Slow to medium	4 to 10
	17649 7331)				· ·		stones		
	Torriorthents - 11 to 25% slopes, gravelly (20%)	. В	Moderate	Severe	SM	Moderate	Poor: < 10 in. AAP	Medium to rapid	4 to 10
	Durorthids - 11 to 25% slopes, shallow (10%)	D	Moderate	Slight	SM or ML to hardpan	Low	Very poor: shallow to indurated pan	Medium to rapid	4 to 10
.34	Xerollic Durorthids - 15 to	D	Wa Jamata	Madanaka	604	1			
.54	30% slopes, dissected (40%)	D .	Moderate	Moderate	SM	Moderate	Fair: 20 to 40 in. root zone	Medium	12 to 15
	Xerollic Paleargids - 15 to 30% slopes (20%)	D	Moderate to high	Slight	GC or SC	Low	Poor: low AWHC, 15 to 30% slope gradient	Medium	12 to 15
	Typic Durorthids - 15 to 30% slopes, dissected (20%)	D	Moderate	Moderate	SM	Moderate	Fair: 20 to 40 in. root zone, 15 to 30% slope gradient	Medium	12 to 15
	Haploxerollic Durorthids - 15 to 30% slopes (10%)	D	Moderate	Moderate	ML or CL	Moderate	Fair: 20 to 40 in.	Medium	12 to 15

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Map Unit	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/		Hazard f/ Wind	Unified Class i	Available Water-Holding Capacity (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
	Typic Torripsamments - 4 to 15% slopes, dissected (10%)	A ,	Low	Severe	SP or SP-SM	Very low	Very poor: very low AWHC; severe wind erosion hazard	Very slow	12 to 15
35	Typic Camborthids - 0 to 10% slopes (30%)	В	Moderate	Slight	ML	High	Fair: <12 in. AAP	Slow	8 to 12
	Xerollic Camborthids - 0 to 10% slopes (30%)	В	Slight to moderate	Moderate	SM or SC	Moderate	Fair: AAP < 12 in.	Slow to medium	8 to 12
	Xeric Torrifluvents - 0 to 10% slopes (30%)	В	Moderate	Slight	CL	High	Fair: AAP <12 in.	Slow	8 to 12
-	Inclusions (10%)	,						,	
36	Typic Camborthids - 0 to 10% slopes (50%)	В	Slight to moderate	Moderate	SM	Moderate	Very poor: < 8 in. AAP	Medium	4 to 7
	Typic Durargids - 0 to 10% slopes (30%)	D	·Moderate	Slight	CH	Low to moderate	Very poor: shallow to pan, <8 in. AAP	Medium	4 to 7
41	Xerollic Haplargids - 0 to 10% slopes (15%)	В	Moderate	Slight	GM	Low to moderate	Very poor: <8 in. AAP	Low to medium	4 to 7
	Inclusions (5%)		76.16.11.4			· Very law			
37	Torriorthents - 0 to 8% slopes, gravelly, stony	В	Moderate	Slight	GM	Very low	- Very poor: very low AWHO	Slow	12 to 15
40	Aridic Haploxerolls - 15 to	С	Moderate	Slight	SM or GM	Moderate	Very poor: >30% slope	Rapid	16 to 23
- 43	50% slopes, stony (30%)		to high		el _p eu	to low	gradients; shallow to bedrock		
	Aridic Argixerolls - 8 to	С	Moderate	Slight	SM or GM	Low	Very poor: >30% slope	Rapid	16 to 23
	50% slopes, stony (30%)		to high				gradients; shallow to bedrock		• • • • • • • • • • • • • • • • • • • •

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group <u>g</u>		Hazard <u>f/</u> Wind	Unified Class <u>i</u>	Available Water-Holding Capacity / (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
	Lithic Xerollic Haplargids - 30 to 70% slopes, stony (15%)	D	Moderate to high	Slight	SM or GM	Very low	Very poor: >30% slope gradients, shallow to bedrock	Rapid	16 to 23
1.5	Lithic Camborthids - 15 to 30% slopes, gravelly (15%)	D	Moderate to high	Moderate	SM or GM	Very low	Very poor: >30% slope gradients, shallow to bedrock	Rapid	16 to 23
	Inclusions (10%)								
41	Xerollic Paleargids - 4 to 15% slopes, gravelly and stony (35%)	D	Moderately low	Slight	СН	Moderately low	Poor: moderately low AWIC; >15% surface stones	Medium	4 to 11
	Xerollic Durargids - 2 to 8% slopes, gravelly and	С	Slight	Slight	CL over GM to pan	Low .	Very poor: shallow to indurated pan; low	Medium	4 to 11
	stony (45%) Inclusions (20%)		to high	Slight			Activities and the same		
44	Lithic Xerollic Haplargids - 15 to 50% slopes (40%)	D	High	Slight	GC,CL	Very low	Very poor: shallow to bedrock; very low AWHC slope gradients > 30%	Rapid	4 to 7
				Sall grid			Stope Branching,		
	Lithic Torriorthents - 8 to 50% slopes (20%)	D	Moderate -	Severe	GM	Very low	Very poor: shallow to bedrock, very low AWHC	Medium	4 to 7
	30% STOPES (20%)					1445	slope gradients >30%		
	Rock Outcrop (20%) Inclusions (20%)			•					
48	Lithic Haplargids - 8 to 50%	D .	High	Moderate	GC,SC	Very low	Very poor: shallow to	Rapid	4 to 7
	slopes, stony (35%)						bedrock, AAP<8 in., slope gradients > 30%		
	Lithic Haplargids - 4 to 15% slopes, stony (25%)	D	Moderate	Slight	SC,CL	Low	Very poor: shallow to bedrock, AAP<8 in.	Medium	4 to 7

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Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g		Hazard <u>f</u> / Wind	Unified Class	Available Water-Holding Capacity i/ (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
	Lithic Xerollic Haplargids - 4 to 15% slopes, stony (15%)	D	Moderately High	Moderate	GC	Very low	Very poor: very low AWHC, AAP < 8 in., shallow to bedrock	Rapid	4 to 7
	Inclusions (25%)						Shallow to bedrock		
49	Duric Haplargids - 0 to 8% slopes, gravel substratum, stony (75%)	В	Low to moderate	Slight	SC,CL over GM	Low	Very poor: low AWHC, AAP < 8 in.	Medium	4 to 7
	Inclusions (25%)								
56	Lithic Haplargids - 4 to 30% slopes, stony (40%)	D	Moderate to high	Slight	GC,CL	Very low	Very poor: shallow to bedrock, AAP < 8 in., very low AWHC	Medium to rapid	4 to 7
	Rock Outcrop (30%)		·	•				Very rapid	4 to 7
	Lithic Haplargids - 4 to 30% slopes (20%)	D .	Moderate to high	Slight	GC,CH	Very low	Very poor: shallow to bedrock, AAP<8 in., very low AWHC	Rapid	4 to 7
	Inclusions (10%)								
58	Typic Durargids - 0 to 4% slopes, shallow (50%)	D	Low	Slight	SC,CL	Very low	Very poor: shallow to hardpan, very low AWHC	Slow to medium	4 .to 7
	Duric Haplargids - 4 to 15% slopes, gravel substratum, dissected (30%)	В	Moderate	Slight	SC,CL	Low	Very poor: AAP<8 in.	Medium	4 to 7
	Inclusions (20%)					, ,			
59	Typic Torriorthents - 2 to 8% slopes (40%)	A	Moderate	Severe	GM,SM	Very low to low	Very poor: very low AWHC, AAP<8 in.	Very slow	4 to 7
	Typic Torripsamments - 2 to 8% slopes (20%)	A	High	Severe	SP, SP-SM, SM	Low	Very poor: very low AWHC, AAP<8 in.	Very slow	4 to 7

TABLE D-2
TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

Available

Average Annual

Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/		Hazard <u>f/</u> Wind	Unified Class	Available Water-Holding Capacity i/ (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Precipitation (inches) (AAP) b/
	Duric Haplargids - 4 to 15% slopes, stony (20%)	В .	Moderate	Slight	SC	Low	Very poor: AAP 8 in.	Medium	4 to 7
	Inclusions (20%)								
60	Rock Outcrop (50%)								
	Lithic Torripsamments - 30 to 50% slopes (20%)	D .	High	Severe	SP,SM	Very low	Very poor: very low AWHC, AAP < 8 in. slope gradients > 30%	Very slow	4 to 7
7	Xeric Torripsamments -	В	High	Severe	SP, SP-SM, SM	Very low	Very poor: very low AWHC, AAP	Very slow	4 to 7
The same	30 to 50% slopes, shallow (20%)						gradients > 30%		
•	Inclusions (10%)								The last of
62	Lithic Haplargids - 4 to 15% slopes (40%)	D	Moderate	Slight	GC,\$C	Very low	Very poor: shallow to bedrock; very low AWHC, AAP < 8 in.	Medium to Rapid	4 to 7
	Rock Outcrop (30%)								
	Typic Haplargids - 4 to 15% slopes, stony (20%)	В	Moderate →	Slight	SC,CL	Low	Very poor: AAP < 8 in., low AWHC	Rapid	4 to 7
	Inclusions (10%)								
63	Typic Torriorthents - 0 to 2% slopes, flooded, saline (50%)	В .	Low	Moderate	SM	Moderate	Very poor: E.C. X 10 ³	Slow	4 to 7
	Typic Torriorthents - 0 to 4% slopes (30%)	A	Low	Severe	SM	Low	Very poor: low AWHC, AAP < 8 in.	Very slow	4 to 7
	Inclusions (20%)								,

				Serginary > 12.		
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Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group g/		Hazard <u>f/</u> Wind	Unified Class	Available Water-Holding Capacity i/ (AWHC) a/	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
64	Haplic Durargids - 2 to 8% slopes, shallow, very stony	D	Low to moderate	Slight	SC,CL	Very low	Very poor: shallow to hardpan, very low AWHC;	Medium	4 to 7
	(40%)						AAP < 8 inches	,	
	Typic Torriorthents - 2 to 8% slopes, stony (30%)	A	Low to moderate	Severe	GM,SM	Very low to low	Very poor: shallow to hardpan, very low to low	Very slow	4 to 7
	Lithic Torriertherit - 17						AWHC, AAP < 8 in.		
	Typic Durargids - 2 to 8% slopes, shallow, stony (15%)	D	Low to moderate	Moderate	SC,CL	Very low	Very poor: shallow to hardpan; very low AWHC AAP< 8 in.	Slow	4 to 7
	Inclusions (15%)	in a							
66	Duric Camborthids - 0 to 2% slopes (40%)	В	Low	Moderate	GM,SM	Low	Very poor: AAP<8 in.; low AWHC	Slow	4 to 7
	Typic Camborthids - 0 to 2% slopes, saline (30%)	В	Low	Severe	SM	Moderate	Very poor: E.C.x10 ³ >4; AAP< 8 in.	Slow	4 to 7
AUTOLOGI	Entic Durorthids - 0 to 2% slopes, saline, shallow (20%)	D	Low	Slight	SM	Very low	Very poor: shallow to hardpan; very low AWHC; E.C.x10 ³ >4	Slow	4 to 7
	Inclusions (10%)		**						
67	Typic Torriorthents - 2 to 8% slopes, cobbly (40%)	В	Moderate	Slight	GM	Very low to low	Very poor: low to very low AWHC; AAP<8 in.	Slow	4 to 7
	Typic Natrargids - 2 to 8% slopes, cobbly, shallow (20%)	С	Moderate	Slight	SC,CL	· Low	Very poor: low AWHC, ESP 5-15%; AAP < 8 in.	Medium	4 to 7
	Duric Haplargids - 2 to 8% slopes, very stony (20%)	B .	Moderate	Slight	SC,CL	Low	Very poor: low AWHC, AAP < 8 in.	Medium	4 to 7
	Inclusions (20%)								

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TABLE D-2 TONOPAH GRAZING ES STUDY AREA SOIL INTERPRETATIONS

Map Unit Symbol	Constituent Soils or Land Types in Map Unit & Approximate Proportions	Soil Hydro- logic Group	Erosion Water	Hazard f/ Wind	Unified Class <u>i</u> /	Available Water-Holding Capacity (AWHC) <u>a</u> /	Suitability for Rangeland Seeding e/	Runoff h/	Average Annual Precipitation (inches) (AAP) b/
68	Rock outcrop (40%)							Very rapid	4 to 7
	Lithic Xerollic Haplargids - 15 to 50% slopes (30%)	D	High	Slight	GC,SC	Very low	Very poor: very low AWHC, shallow to bedrock, AAP<8 in.	Medium to rapid	4 to 7
	Lithic Torriorthents - 15 to 50% slopes (20%)	D	High	Slight	GM,SM	Very low	Very poor: very low AWHC, shallow to bedrock, AAP<8 in.	Slow	4 to 7
	Inclusions (10%)								
72	Lithic Haplargids - 15 to 50% slopes (50%)	D	Moderate to high	Slight	GC,CL	Very low	Very poor: very low AWHC, shallow to bedrock, AAP < 8 in.	Rapid	4 to 7
	Rock Outcrop (40%)								

Inclusions (10%)

Abbreviations Used in Table: a/AWHC - Available Water-Holding Capacity (See Appendix D-

- b/ AAP Average Annual Precipitation (See Climate, Ch. II-) c/ E.C. X 10³ = Equivalent conductance in mmhos/cm.²
- d/ ESP = Exchangeable Sodium Percentage
- e/ Criteria from "interim Guide for Rating Soils According to Their Soil Suitabilities for Rangeland Seedings-Nevada," USDA-SCS and USDI-BIM, August 11, 1971.
- f/ Eroision hazard pertsins to a qualitative estimate of the potential for soil particles to be detached and transported by wind, water or other agents when benefits of protective plant cover is not present. Determination of erosion hazard is based on soil texture and other characteristics which affect detachability, infiltration, permeability, slope gradients, length and shape of slope, and content of coarse fragments.
- g,h/ Criteria from U.S. Bureau of Land Management Manual 7312 Soils (See Appendix D-)
- i/ Criteria from Unified Soil Classification System for Roads, Airfields, Embankments and Foundations, MIL-STD-619B, 30pp., 1968.

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			The Court of season by Court of
Thirds—stell signification — The proof of th			
Maria de la composita della composita della composita della composita della co			
The straight was probably Especially for spanish problems of the state			

TABLE D-3 ACREAGE BY SOIL ASSOCIATION AND ALLOTMENT IN TONOPAH STUDY AREA

Allotment	Soil Map Unit (Association)	Acreage
Ione	1	10,076
	2	6,606
	.15	275
	16	20,066
	20	1,234
	21	3,252
	22	4,777
	23	11,253
	26	2,424
	28	290.
	30	6,127
San Antone-Smoky	1	53,533
•	2	51,472
	3	6,960
·	4	11,312
	5	19,556
	6	39,500
	7	21,479
	8	3,530
·	9	8,532
	12	245
	16	5,149
	17	294
	20	5,345
	26	5,639
	40	. 39,476
	44	1,716
	48	6,130
	49	1,078
	56	588
	58	5,394
	59	3,187
	60	4,904
	62	882
	63	2,304
	64	28,441
	66	32,366
	67	59,336
DE COME WITH MENTERS BY	68 .	6,179
LIMINARY DRAS	69	294
	72	4,217
	8	2,353

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ACHIENDE NE SDEE ASSOCIATION AND ALLETHING IN TOROPALL AND ALLETHING AND ASSOCIATION

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\$1,472 \$1,000 \$1,412 \$1,412 \$2,550 \$1,472 \$1,472		
161117		
*		

TABLE D-3 ACREAGE BY SOIL ASSOCIATION AND ALLOTMENT IN TONOPAH STUDY AREA (CONT.)

Allotment	Soil Map Unit (Association)		Acreage
Francisco	2		882
Tancisco	2 3		3,187
•	4	,	5,198
Dammarch Hot Camings	7		343
Darrough Hot Springs	3		1,716
	5		686
	6		343
	9		4,854
	. 10	. \	
Ralston-Monitor	1 2 3		36,679
	2		18,879
	5		30,453
	6 7		7,203
·	8		49,673
	9		23,979 5,982
			294
water and the same of the same	12 15		6,962
	17		833
	21		1,029
	22		3,972
	24		11,423
	25		3,776
	26		9,709
	28	7	5,982
	29		343
	30		980
	40		14,466
	43		2,206
	44		3,334
	72		5,344
Hunts Canyon	1		23,978
	1 3 7		2,746
			2,108
	12		2,991
	21		1,078
***	22		1,524
The second second	26		5,198
	28		15,251
THE HARRISH WITH A PARTICULAR AND THE PARTICULAR AN	29	Paris Id. 1 .	3,972
Treesperience and a special a	30		490
	40		17,153

	080
*	
	ere, er

TABLE D-3 ACREAGE BY SOIL ASSOCIATION AND ALLOTMENT IN TONOPAH STUDY AREA (CONT.)

Allotment		oil Map l Associat		Acreage
Stone Cabin		1		30,205
		. 2		4,413
		3	,	14,457
		6 8		6,473
		14		1,814 2,402
		15		7,305
		21		6,669
		28	•	1,520
		40	. 4	37,710
		41		3,530
		67		60,857
W. 1		77		2 757
Willow Creek		3 15		2,353 5,933
		21		294
		40		11,426
Wagon Johnnie		1		2,550
		9		3,775
		15		25,449
		26		2,844
		34 37		8,532 2,550
		40		9,511
		40		3,311
Hot Creek		1	*	1,323
		2		20,203
		3 7 8		45,649
		7		6,423
				1,226
		11		7,944
		12		7,650
		13	,	20,253
		14 15		4,903
	-	28		4,168
		34		14,220
		35		3,570
		36		2,157
DOUGHNA MONT PROPERTY	E Marcha	40		70,575
SELL EMPLEMENTS	10-11	41		3,383

4		
		. 26,440
		9,511
		ST, D

TABLE D-3 ACREAGE BY SOIL ASSOCIATION AND ALLOTMENT IN TONOPAH STUDY AREA (CONT.)

Allotment	Soil Map Unit (Association)	Tresint aud	Acreage
Reveille	1		3,824
	2		22,850
in the same of the	3 7	1	22,803
	8		17,359 2,991
	9		441
	11		83,315
	12		27,508
Accide There well mits	13		17,995
	14		59,140
	20	j.	3,776
	21		3,089
	40		16,330
	67		147
Nya1a	3		833
	8	•	12,873
	10		19,616
	11		54,751
	12		28,160
	13		8,582
	14		18,057
Butterfield Springs	8		7,969
parter oping	10		12,873
	11		1,618
Track Contract to	12	*	8,275
	13.		2,304
Margaretti La Contraction	14		23,294
Blue Eagle	10		9,195
Date Bugae	11		7,049
	12		5,345
	13		196
	14		2,010

ACTUDE AND STREET IN TOROPALL AND ALLOTHEST IN TOROPALL CYUUY ANDA (CONT.)

				212,58	
	4			27,315	
Yes a second					

TRACO YEAR COAST

TABLE D-4 ESTIMATED AVERAGE SEDIMENT YIELD BY SOIL SUBGROUP WITHIN THE TONOPAH STUDY AREA

Soil Subgroup or Land Type	Acre	Present and Fut feet/square mile/	
ENTISOLS		,	
I dal da Manada and and a		20	
Lithic Torriorthents		.20	
Typic Torriorthents Durorthidic Torriorthents		.14	
Xeric Torriorthents		.13	
	-	.13	
Aquic Torriorthents		.11	
Lithic Torripsamments		.18	
Typic Torripsamments		.21	
Xeric Torripsamments		.22	
Refre Toffipsammenes		• 4 4	
Typic Torrifluvents (one phase	is		
highly eroded)		.61	
Xeric Torrifluvents		.27	
Alloway and the lateral and the	6		
ARIDISOLS	ŧ		
Typic Durorthids		.17	
Entic Durorthids		.14	
Haploxerollic Durorthids		. 15	
Xerollic Durorthids		.15	
Lithic Camborthids		.26	
Typic Camborthids		.15	
Duric Camborthids		.12	
Durixerollic Camborthids		.16	
Xerollic Camborthids		.15	
notein tand			
Aquic Calciorthids		.11	
Lithic Hanlargide		25	
Lithic Haplargids Typic Haplargids		.25	
Duric Haplargids		.18	
Lithic Xeric Haplargids		.16	
Durixerollic Haplargids		.26	
Lithic Xerollic Haplargids		.17	
Xerollic Haplargids		.15	

Present and Futurer Acre feet/square mile/year

Subgroup or Land Type

ENLIZOTZ

	Aquie Torriorante
Ent- VE.	Typic lorrithments (one passe is Xoric lorrithments

TABLE D-4 ESTIMATED AVERAGE SEDIMENT YIELD BY SOIL SUBGROUP WITHIN THE TONOPAH STUDY AREA

Soil Subgroup or Land Type	Acre	Present and Future* e feet/square mile/year
Typic Durargids Haplic Durargids Haploxerollic Durargids Xerollic Durargids	1131	.15 .18 .15 .16
Typic Nadurargids Haplic Nadurargids Haploxerollic Nadurargids Typic Natrargids Duric Natrargids Durixerollic Natrargids Xerollic Natrargids Aquic Natrargids		.18 .14 .15 .10 .22 .27 .27
Xerollic Paleargids		.25
MOLLISOLS		
Aridic Haploxerolls		.19
Aridic Argixerolls		.20
Typic Calciaquolls		.17
INCEPTISOLS	32	•
Aeric Halaquepts		.11
Rubbleland Rock Outcrop Playa		.13 .13 .19

^{*} Future With or Without Proposed Action.

Sediment Yield Value for each soil subgroup was averaged among the various phases of the subgroup (i.e., saline, cobbly, gravelly, eroded, dissected, slopes).

ESTIMATED AVENCE SUBJECT VIEW BY SOIL SUBGROUN

	Typic Nadorargids Haplic Nadorargids Maploxerollic habracytis Typic Darrargids Durke Hatrargids Nerollic Hatrargids Nerollic Hatrargids

[.] number | becomes | tropics or aris orners .

Sodierat Yield Value for each woll subgroup was syckered sensy the various phases of the columns of the columns

TABLE D-5
MEAN SEDIMENT PRODUCTION (TONS/ACRE) FOR SIX PLANT COMMUNITIES AND
FIVE SOIL SUBGROUPS AT COILS CREEK WATERSHED (AFTER BLACKBURN, 1973)

				Percen	t Ground Cover		
		78	75	73	94	78	90
Application	Initial Soil			Soil Sub	group and Slope		
	Moisture Condition	Xerollic Haplargids, 13%	Atruptic Xerollic Durargids, 3%	Xerollic Durargids, 1%	Pachic Argixerolls, 6%	Xerollic Haplargids, 6%	Typic Torriorthents, 3%
		:		Plant	t Community	*	
		Arar/ 2/ Pose	Arar/ Pose (Low)	Artr/ Pose/ Phdi	Sylo/ Artr/ Agsp/	Artr/- Agsp/ Basa	Pimo/ Juos/ Arar/
					Wymo		Pose
2.57/	,		,	Sedimer	nt Production		
1.5 1/	Dry	.0.34 ^a	0.26 ^b	0.16 ^c	0.11 ^d	0.06	0.01 ^{abcd}
144	Test Committee	Arar/ Pose	Arar/ Pose (Low)	Artr/ Pose/ Phdi	Sylo/ Artr/ Agsp/	Artr/ Agsp/ Basa	Pimo/ Juos/ Arar/
• •					Wymo		Pose
1.5 1/	Field Capacity	0.47 ^a	0.36 ^d	0.40 ^b	0.16 ^{abéd}	0.19 ^a	0.37 ^c

The mean occurring first with a letter superscript is significantly different from all other means having the same letter superscript (0.05 level).

PRELIMINARY DRAFT

Arar/Pose = Bud sagebrush/Sandberg bluegrass
Arar/Pose (Low) = Bud sagebrush/Sandberg bluegrass
Artr/Pose/Phdi = Bud sagebrush/Sandberg bluegrass/Phacelia
Sylo/Artr/Agsp/Wymo = Snowberry/Big sagebrush/Bluebunch wheatgrass/Wooly wyethia
Artr/Agsp/Basa = Big sagebrush/Bluebunch wheatgrass/Arrowleaf balsam root
Pimo/Juos/Arar/Pose = Pinyon/Juniper/Bud sagebrush/Sandberg bluegrass

^{1/} Mean values for the 60 min. test.

^{2/} Refers to plant community:

TABLE D-5
MEAN SEDIMENT PRODUCTION (TONS/ACRE) FOR NINE PLANT COMMUNITIES AND SEVEN SOIL SUBGROUPS AT DUCKWATER WATERSHED (AFTER BLACKBURN, 1973)

					Perce	ent Ground	Cover			
		45	48	79	58	63	60	65	77	82
Application	Initial Soil				Soil Su	ubgroup and	Slope Slope			
rate (in/hr) Moisture Condition	Typic Natrargid, 4%	Typic Torrifluvent, 1%	Entic Durorthid, 4%	Duric Haplargid, 2%	Haplic Durargid, 3%	Entic Durorthid, 4%	Xerollic Durargid, 4%	Haplic Durargids, 10%	Xerollic Haplargids 6%	
					P1a	ant Communi	ty			
		Atco <u>2</u> /	Eu1a	Arno/ Atco	Artr/ Chvi	Artr	Atco/ Eula	Arno	Juos	Pimo/ Juos
			•		Sedin	ment Produc	tion			
1.5 1/	Dry	0.409 ^a	0.324 ^b	0.323 ^c	0.298 ^d	0.208 ^a	0.188 ^f	0.183 ^g	0.029 abcd efgh	0.004 abco
		Atco	Eula	Arno/ Atco	Artr/ Chvi	Artr	Atco/ .Eula	Arno	Juos	Pimo/ Juos
1.5 1/	Field Capacity	0.303 ^d	0.339 ^b	0.323 ^c	0.487 ^a	0.282 ^f	0.179 ^g	0.288 ^e	0.023 abcd efgh	0.004 abc

The mean occurring first with a letter superscript is significantly different from all other means having the same letter superscript (0.05 level).

 $\frac{1}{2}$ / Mean values for 60 min. test. $\frac{1}{2}$ / Refers to the plant community:

Atco = Shadscale

Eula = Winterfat

Arno/Atco = Black sagebrush/Shadscale

Artr/Chvi = Big sagebrush/Rabbitbrush

Artr = Big sagebrush

Atco/Eula = Shadscale/Winterfat

Arno = Black sagebrush
Juos = Juniper

Pimo/Juos = Pinyon/Juniper

PRELIMINARY DRAFT

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		140 54 1	
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TABLE D-5 MEAN SEDIMENT PRODUCTION (TONS/ACRE) FOR SIX PLANT COMMUNITIES AND FOUR SOIL SUBGROUPS AT STEPTOE WATERSHED

			50	Per	cent Ground Cover		
		66	72	75	71	96	71
Application	Initial Soil			Soi1	Subgroup and Slope	8 18 1	
rate (in/hr) Moisture Condition	Xerollic Camborthids, 12%	Haploxerollic Durargids, 4%	Duric Argixeroll, 6%	Haploxerollic Durargids, 4%	Durixerollic Camborthids, 2%	Durixerollic Camborthids, 2%	
				<u>P</u>	lant Community		
		Pimo/ 2/ Juos	Artr/ Agsp	Artr Putr/ Agsp	Agde (High)	Artr	Agde (Low)
				Sed	iment Production		
1.5 1/	Dry	0.25 ^a	0.07 ^b	0.03	0.02	0.008 ^a	0.003 ^{ab}
		Pimo/ Juos	Artr/ Putr/ Agsp	Artr/ Agsp	Agde (High)	Artr	Agde (Low)
1.5 1/	Field Capacity	0.31 ^a	0.24 ^b	0.10	0.07	0.03 ^a	0.02 ^{ab}

The mean occurring first with a letter superscript is significantly different from all other means having the same letter superscript (.05 level).

 $\frac{1}{2}$ / Mean values for 60 min. test. $\frac{2}{7}$ / Refers to plant community:

PRELIMINARY DRAFT

Pimo/Juos = Pinyon/Juniper Artr/Agsp = Big sagebrush/Bluebunch wheatgrass
Artr/Putr/Agsp = Big sagebrush/Antelope bitterbrush/Bluebunch wheatgrass Agde = Agave Artr = Big sagebrush

		18
- 13		
	150	

TABLE D-6

POTENTIAL RANGE PRODUCTIVITY (AIR DRY HERBAGE) BY SOIL SUBGROUP WITHIN THE TONOPAH STUDY AREA

Soil Subgroup or Landtype Dr	y Weig	tht (lbs./Acre)	*
ENTISOLS			
Lithic Torriorthents	•	225 500	
		225-500	
Typic Torriorthents		150-350	
Durorthidic Torriorthents		150-375	
Xeric Torriorthents		250-500	
Aquic Torriorthents		90-375	
Typic Torriorthents (flooded and saline)		350-850	
Lithic Torripsamments		225-500	
Typic Torripsamments		250-450	
Xeric Torripsamments		225-500	
Typic Torrifluvents	1		
Xeric Torrifluvents		200-500	
ARIDISOLS			
mais Dansathile		150 400	
Typic Durorthids		150-400	
Entic Durorthids		150-400	
Haploxerollic Durorthids		150-250**	
Xerollic Durorthids		150-250	
Lithic Camborthids		150-350**	
Typic Camborthids		150-350	
Duric Camborthids		150-400	
Xerollic Camborthids		275-550**	
Durixerollic Camborthids		275-550	
Lithic Haplargids		225-500	
Typic Haplargids		150-400	
Duric Haplargids (very stony)	1/2	25-100	
Duric Haplargids		275-575	
Lithic Xeric Haplargids		150-250	
Durixerollic Haplargids		300-650	
Lithic Xerollic Haplargids		275-550	
Xerollic Haplargids		500-800	
Typic Durargids		225-500	
Haplic Durargids		275-500	
Haploxerollic Durargids		375-700	
Xerollic Durargids		350-675	
Typic Nadurargids		120-390	
Haplic Nadurargids		120-390	
Haploxerollic Nadurargids		120-390**	
Typic Natrargids (cobbly)		25-100	

POTENTIAL RANCE PRODUCTIVITY (AIR ORT HERBAGE) BY SOIL SUBGROUP HYTHEN THE TOWOPAN STUDY AREA

Soil Subgroup or Linking

SHIRTSOLS

	Typic Torriorticate
	Typic Townips cannes

ARIDISOLS

Perisonal is the land and a second
Typic Durargida
Hapile Durargids
Typic Madurargida

Armed Disconniching

TABLE D-6

POTENTIAL RANGE PRODUCTIVITY (AIR DRY HERBAGE) BY SOIL SUBGROUP WITHIN THE TONOPAH STUDY AREA

Soil Subgroup or Landtype	Dry Weight (1bs./Acre)*
ARIDISOLS, continued	
Duric Natrargids Durixerollic Natrargids Xerollic Natrargids Aquic Natrargids Aquic Calciorthids Xerollic Paleargids	150-400 150-400** 150-400** 90-375 350-850 375-700
MOLLISOLS	
Aridic Haploxerolls Aridic Argixerolls Typic Calcioaquolls	500-800 300-650 500-1500
INCEPTISOLS	
Aeric Haloquepts	200-800
MISCELLANEOUS LAND TYPES	
Rubble Land Rock Outcrop Playa	0-100 0 0

^{*} Range between unfavorable and favorable moisture years.

PRELIMINARY DRAFT

^{**} Estimated.

APPENDIX D SOILS TERMS AND DEFINITIONS

Permeability

Permeability is that quality of the soil which enables it to transmit water or air. Soil permeability can be quantified in terms of a rate of flow of water through a cross section of saturated soil in a given time.

Permeability rates are expressed in inches per hour. The classes are as follows:

- 1. Slow: .06 to .20 inch per hour
- 2. Moderately slow: .20 to .60 inch per hour
- 3. Moderate: .60 to 2.00 inches per hour
- 4. Moderately rapid: 2.00 to 6.00 inches per hour
- 5. Rapid: 6.00 to 20.00 inches per hour

Available Waterholding Class Range

Class Range of Available Waterholding Capacity to 4 Feet Depth, or to Hardpan or Bedrock

(inches of water)

High Moderate High Moderate Low Very Low

4.5-6 3-4.5

2.5-3

A PROPERTY OF STREET STREET

NATIONAL PROPERTY.

tract through a cross suction if include coil in a given time of flow of traces through a cross suction if include per hour. The classes are in a labour. The classes are included in include per hour. The classes are in allower.

1. Slow: . De le . In Such per hour

Trust ray ford 55, or 05 toute plotereden A

Z. Malerten: . 60 to 2.00 Taches per hour

4. Modernings applies 2.40 to 6.00 inches per hour

S. Repid: 6.09 to 70 00 inches per hour

available basementing Class Somes

hange of and lable waterfolding Conscity to a lest naprin

ESSID.

Crosmy by sudmitte

0-2-3 0-2-3 1-2-5 (0311 036794601 0200 05411

3/01/1 /53/1

Surface Runoff

Surface runoff refers to the relative rate water flows over the surface of the soil. The classes are defined as follows:

- 1. Ponded: None of water added to the soil as precipitation or by flow from higher land escapes as runoff but must pass through the soil or evaporate. Areas are usually distinct depressions. (Ponding should be of sufficient duration to be injurious to crops.)
- 2. Very slow: Surface water flows away so very slowly that free water lies on the surface for long periods of time or enters immediately into the soil. Soils are usually nearly level or very open and porous. Water either evaporates or percolates through the soil.
- soil for significant periods or enters the soil rapidly and a large part of the water passes through the profile or evaporates. Slopes are very gentle and the water erosion hazard is slight.
- 4. Medium: Surface water flows away at such a rate that most of the water enters the soil profile and free water lies on the surface for only short periods. Most of the water is absorbed by the soil where it is used for plant growth or lost by evaporation or percolation. Under cultivation the water erosion hazard may be slight or moderate.

PREPARATE DEAR

Surface runoff refers to the relative rete flows over the surface of the sell. The classes are defined as follows:

Fonded: None of water added to the soil as precipitation or by flow from bigher land excepts as remotf but must pass through the soil or evaporate. Areas are usually distinct depressions. [Fording should be of sufficient depressions to crops.]

Very slow: Curteer water float mean so very slowly than free wree live on the surface for long particle of time or enters together into the sull. Spins are usually namely lovel or very open and record live sither evaporates or percolates through the sent.

Show: Surface vater flore every so slowly that five enter covers the soil for significant previous or enters the soil rapidly and a large pure of the water passes through the profile or expectation Slopes are very gentle and the water erosion hazard is slight.

Medium: Souther water Flows aren's a rate that not of the water star and a rate that not of the water stars and true water lies on the souther for any periods. Here of the water is absorbed by the real where it is asserted by the respectation of percention which or maker and the respectation of percention which or moderate.

5. Rapid: A large portion of the water moves rapidly over the surface of the soil and a small part moves through the soil profile. Soils are usually moderately steep to steep and have low infiltration capacities. Erosion hazard is moderate to high.

Very rapid: Surface water runs off nearly as fast as it is added and only a very small proportion of the water enters the soil. Soils are usually steep or very steep, have low infiltration capacities, and a high to very high erosion hazard.

Erosion Hazard

Erosion Hazard (water and wind) is a rating based on expected losses of surface soil when all vegetative cover including litter is removed. The classes are as follows:

- 1. Slight: little loss of soil material is expected. Minor sheet or rill erosion may occur.
- 2. Moderate: some loss of surface soil material can be expected.

 Rills, small gullies, and sheet erosion may occur.
- 3. Severe: considerable loss of surface soil material can be expected.

 Rills, numerous small gullies, and sheet erosion can occur.

PRELIMINARY DRAFT

Very rapid: Surface unter year off marry as fast as in is is and and only a very table proportion of the sector carery the soil. Soils are usually steep or very every how he indistrey in aspecitions and a high to very high enceion heart.

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rosion Harard (water and vine) to a jutted hased on expected to one of one cases of sear season like the commend. The statement as follows:

1. Slight: little loss of salt material is especial. Historelant

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S. Severa: considerable less of surface and surestal on to occure.

THANK YORKSHILLING

Criteria for Soil Phases

Slope	Phases
-------	--------

Slope Names

Slope Classes by Gradient	Simple Slopes	Complex Slopes
0-2% 2-4% 4-8%	Level or Nearly Level Gently Sloping Moderately Sloping	Level or Nearly Level Undulating Gently Rolling
8-15% 15-30%	Sloping Noderately Steep	Rolling Hilly
30-50% 50-70% 70%	Steep Very Steep Extremely Steep	Steep Very Steep Extremely Steep

Depth to Bedrock or Hardpan Phases

Very Shallow: less than 10 inches to bedrock or hardpan.

Shallow: 10 to 20 inches to bedrock or hardpan.

(Lithic: less than 20 inches to hard bedrock; this designation appears

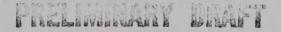
as part of the soil Subgroup name.)

Gravel Substratum Phases

A gravel substratum is a subsurface layer at least 40 inches thick and containing more than 35 percent by volume of gravel and cobbles. This substratum may contain lenses of sand, and the fine earth in the pebble interstices commonly is sandy or loamy. Gravel substrata within two depth ranges are considered significant phase separations.

Shallow Gravel Substratum: a gravel substratum at less than 20 inches depth.

Gravel Substratum: a gravel substratum at 20 to 40 inches depth.



Jope Phases

Street America

Slayer Classes by Cradius

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Very Shallow has shared to being agreement or nation

Shallow: 16 to 10 inches to helder, or hardpan-

(Lithius less than 15 inches by but himself, the to contract against

as part of the soul featible over)

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and the same and the same of t

Sailton bravel substitute a grantl substitution at leas then 20 inches

-dayob

they are the training a group adopted on at 10 to 10 and a other

Total Total Transmitter

Surface Stoniness Phases

Slightly Stony: 2 to 10 percent of the soil surface covered with cobbles, stones or boulders.

Stony: 10 to 25 percent of the soil surface covered with cobbles, stones, or boulders.

Flooded Phase

Soils subject to stream overflow, or flooding roughly 5 years in 10 or less; these soils occur in stream channels or on floodplains inherently subject to flooding.

Saline Phase

Soils with soluble salt contents great enough that the upper 20 inches have a salinity such that the saturation extract electrical conductivity is greater than 4 mmhos/cm. Such soils commonly have salt efflorescences on the surface and also are sodic. In the Dixie Valley area, saline soils commonly have pH values of 8.8 or greater.

Eroded Phase

Soils cut by numerous gullies and rills or with subsurface horizons or parent material exposed at frequent intervals.

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Sixface Stonliness Process

Slightly Stond. I to 10 percent of the real surface covered with contrary stones or boulders.

Stony: In to 15 persons of the coll auction revered with cold to the stone or boulders.

Plooded Phase

Soils subject to strain overflow or ficeding company is years in an aless, these soils actor to strain comments or on freedylates thereoned subject to fluoding.

Saline Phase

Solls with colomic said concome great content the coper 20 andness have a salinity such that the authorized conductivity is greater than a micegies. Such solls commonly have just estimated on the surface and also an andle. In the Walle Velley area, raise soll commonly have off values of the or greater

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Meanings Of The Formative Elements In Names Of Soil Classes

PRELIMINARY DRAFT

Form	ative Element	Example of Use	Meanings for Soils of Railroad Valley Area
arg	,	Durargids	With subsoil horizon of clay accumulation (argillic horizon)
aqu		Aquolls	With properties due to wetness
calc	:	Calciaquolls	With subsoil horizon of calcium carbonate accumulation (calcic horizon)
camb	Formac Jun Tamour	Camborthid	With altered subsoil horizon
dur		Durargid	With silica-cemented hardpan (duripan)
ent		Torriorthent	Recent, without diagnostic horizons (one of the Entisols)
ent		Entic *Durorthid	With strongly cemented or discontinuous duripan
fluv		Torrifluvent	On an active floodplain .
hap1		Haplargid	Simple, without special features
hap1		Haplic *Durargid	With strongly cemented or discontinuous duripan
id		Ar <u>id</u> isol *	An arid soil (one of the Aridisols)
lith	n .	Lithic Haplargid	Shallow to hard bedrock
, nadu	ır	Nadurargids	With sodium-affected subsoil and a hardpan (natric horizon and duripan)
nati	c	Natrargid	With a sodium-affected subsoil horizon of clay accumulation (natric horizon)
011		Xer <u>oll</u>	- With a dark colored, thick surface horizon (mollic epipedon; one of the Mollisols)

SASTISTATION DIFFE.

orth	Camb <u>orth</u> id	Common example (for Aridisols means without argillic horizon; for Entisols means not a sand texture)
pale	Paleargid	Old soil with yery thick, clayey subsoil
psamm	Psamment	Very sandy soil; a sand
torr	Torriorthent	An arid soil (same degree of dryness as for Aridisols), mesic soil temperatures
typic	Typic Durorthid	Common example; without special features
xer	<u>Xeroll</u>	With a winter-moist and summer-dry soil moisture regime
xer	Xerollic *Durargid	A somewhat more moist soil than in the "typic" subgroup

^{*}When this formative element is used in the adjectival portion of this particular Subgroup name, it has the particular meaning given here.



APPENDIX E

WATER RESOURCES

PAGLIMINATY DRAFT

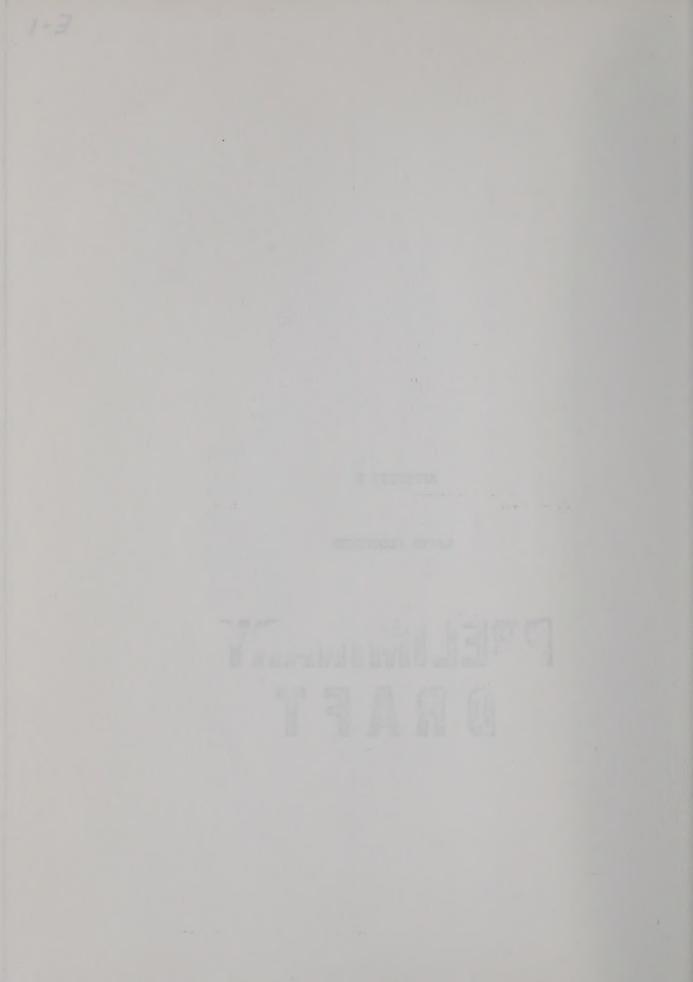


TABLE \sqsubseteq -\ MONITOR WELL WATER QUALITY

As part of the Energy Research and Development Administration (formerly the Atomic Energy Commission) work in Central Nevada, a well was drilled in Monitor Valley, T. 12N, R. 47E., Section 8. The well is 4,353 feet deep and cased with 20-inch casing to 52 feet and 13-3/8-inch casing to 1,687 feet. Flow is hot water (118°F.) with a static water level of +20 feet and a flow rate of 745 gallons/minute.

The following water analysis information was obtained from ERDA (then AEC) in the early 1970's:

Conductivity micromhos/cm ²		1,000
Salt parts/million pH		700
Cations (equiv./million):		0.0
Calcium	men ana m	None
Magnesium		3.9
Sodium	. 1	6.1
Potassium		None
	TOTAL CATIONS	10.0
Anions (equiv./million):		
Carbonate		None
Bicarbonate	·	6.14
Sulphate	4	3.32
Chloride	*	.54
Boron (p.p.m.)		.20

Overall rating is fair for irrigation and fair for livestock use.

NOTE: cm = centimeter, equiv. = equivalents



Illustrations - Water Development Maps. Maps show springs, pipelines, and wells in the Tonopah study area.

PRELIMINARY DRAFT

APPENDIX F

VEGETATION

PRELIMINARY DRAFT

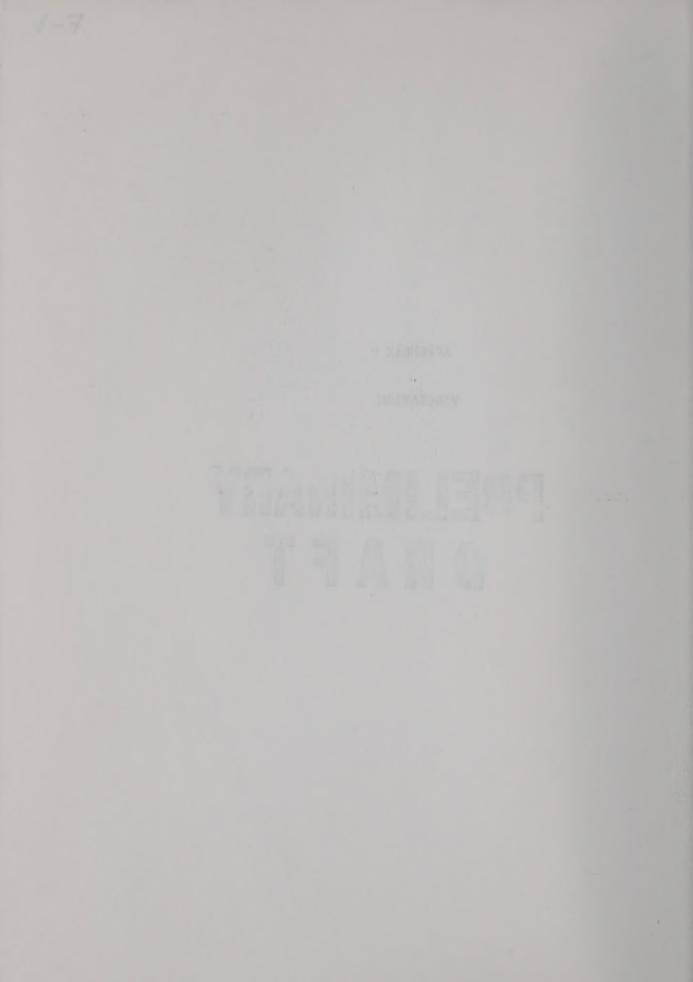


TABLE F-1

PRELIMINARY DRAFT

COMMON VEGETATIVE SPECIES (In Tonopah Study Area)

Common Name

Scientific Name

Singleleaf pinyon
Utah juniper
Quaking aspen
Curlleaf mountain mahogany
Rocky Mountain juniper
Chokecherry
Willow

Trees
Pinus monophylla
Juniperus steosperma
Populus tremaloides
Cercocarpus ledifolius
Juniperus scopulorum
Prunus Virginiana
Salix

Shrubs

Amelanchier utahensis Artemisia arbuscula Artemisia nova Artemisia spinescens Artemisia tridentata Atriplex canescens Atriplex confertifolia Chrysothamnus sp. Cowiana Ephedra nevadensis Eurotia lanata Grayis spinosa Opuntia Purshia tridentata Sarcobatus vermiculatus Symphoricarpos Tetradymia glabrata

Serviceberry
Low sagebrush
Black sagebrush
Bud sagebrush
Big sagebrush
Fourwing saltbrush
Shadscale
Rabbitbrush
Cliffrose
Nevada ephedra
Winterfat (white sa

Nevada ephedra
Winterfat (white sage)
Spiny hopsage
Prickly-pear cactus
Antelope bitterbrush

Greasewood Snowberry Horsebrush

Western yarrow
Wild onion
Milkweed
Locoweed
Arrowleaf balsamroot

Larkspur

Tansy mustard

Fleabane

Forbs

Achillea
Allium
Asclepias
Astragalus
Balsamorhiza sagittata
Coldenia plicata
Delphinium andersonii
Chenopodium incanum
Descurainia sp.
Eriastrom diffusum
Erigeron sp.

TRAFF YEARSMILESON

1-7 annar

Course (Burn Send) Areas (1)

Common Na.

Singlelesf pinyon man juniper Quahing aspen Curlical mountain mahagany Nocky Mountain juniper Chokecherry Willow

No.

SULTUS

ALLEGATION CALLED AND ALLEGATION OF THE PARTY OF THE PART

Low sagebrush

Black sagebrush

Bud sagebrush

Fourwing salthrush

Shedscale

Cliffrose

Winterfat (white sage)

Brickly-pear carter

Antalope bitterbrush

Antalope bitterbrush

Cresswood

Antalope bitterbrush

In easewood

Western yearow Wildresd Wildresd Acrowless halk-manus

ringestrand

Tenny mustard

pandent

200

TOTAL TOTAL OF THE PARTY OF THE

Forbs (cont'd)

Eriogonum
Gilia
Halogeton
Sunflower
Green molly
Pepperweed (tar weed)

Pepperweed (tar weed)
Lupine

Alfalfa
White sweetclover
Yellow sweetclover
Evening primrose

Penstemon
Phlox
Cinquefoil
Buttercup
Russian thistle
Groundsel

Tumble mustard
Desert globemallow
Consedernyloaf glob

Gooseberryleaf globemallow

Dandelion Clover Cattail Violet

Mulescar wyethia

Death camas

Eriogonum sp.
Gilia latifolia
Halogeton glomeratus
Helianthella .
Kochia americana

Lepidium Lupinus sp. Medicago satira Melilotus alba

Melilotus officinalis

Oenothera sp.
Penstemon sp.
Phlox sp.
Potentilla sp.
Ranunculus sp.
Salsola kali
Senscio sp.

Sisymbrium altissimum Sphaeralcea ambigua

Sphaeralcea grossulariaefolia

Taraxacum officinale

Trifolium

Typha hatifolia

Viola sp.

Wyethia amplexicaulis Zigadenas paniculatus

Grasses

Agropyron cristatum
Agropyron desertorum
Agropyron repens
Agropyron smithii
Bromus inermus
Bromus tectorum
Bouteloua barbata
Dactylis glomerata
Distichlis spicata
Elymus cinereus
Elymus junceus

Fairway crester wheatgrass Standard crested wheatgrass Quakegrass Western wheatgrass Smooth brome Cheatgrass

Orchardgrass
Salt grass
Greatbasin wildrye
Russian wildrye

dogonom

lis

milowor

milowor

cen woil;

pprived (tar weed)

faira

plow smerclover

lite sweetclover

lite sweetclover

ming primose

microup

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mole mistle

mole m

Fairway crestor whosegrass granks quakegrass wastern wheatgrass Sapoth brown Chestgrass

Salt gress Salt gress Sreatively wildrys Russian wildrys

Andrews normanian and a second a second and a second a

Galleta
Foxtail barley
Junegrass
Indian ricegrass
Timothy
Reed canarygrass
Reed bluegrass
Squirreltail
Alkali sucaton
Sand dropseed
Needlegrass

Spike trisetum

Grasses (cont'd)

Hilaria jamesii
Hordeum jubatum
Koelaria cristata
Oryzopsis hymenoides
Phleum partense
Phragmites communis
Poa sp.
Sitanion hystrix
Sporobolus giroides
Sporobolus crytandrus
Stipa sp.
Trisetum spicatum

Sedges Spikerush Rushes Bulzushes Grasslike

Carey spp.
Eleocharis spp.
Juncus spp.
Scirpus spp.

PRELIMINARY DRAFT

APPENDIX G

PRELIMINARY DRAFT

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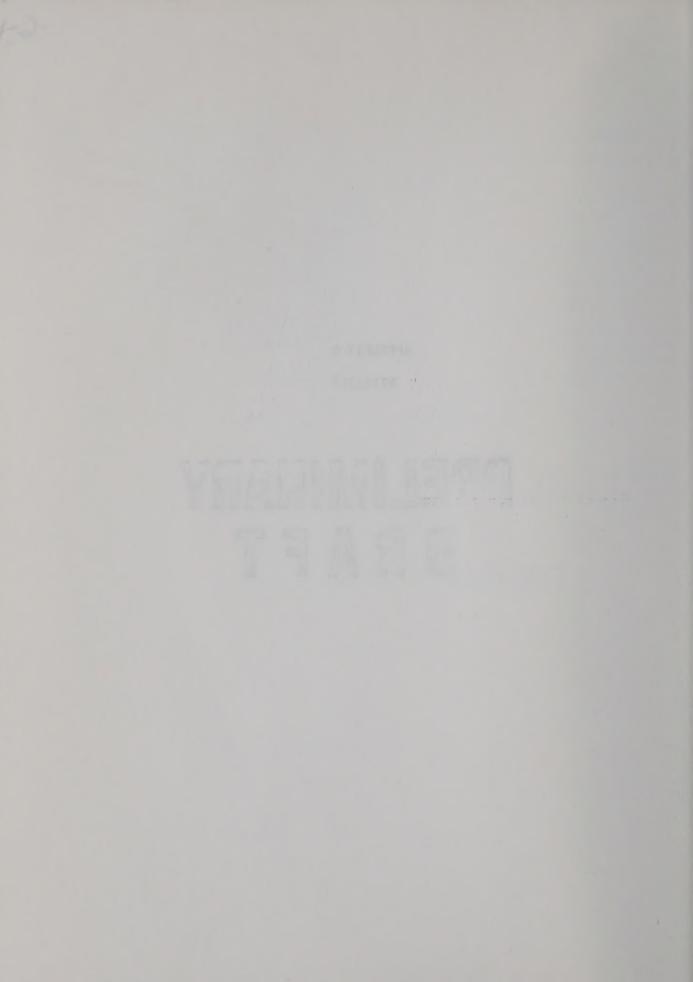


TABLE G-\ WILDLIFE SPECIES AND RELATIVE HABITAT PREFERENCE FOR THE TONOPAH STUDY AREA

Mammals	A Company of the Absolute of	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Belding Ground Squirrel										
Citellus beldingi										
Golden-mantled Squirrel					DD		nn	nn	DD	
Citellus lateralis		С			PR		PR	PR	PR	
Whitetail Antelope Squirrel		С	PR	PR	PR		PR			
Ammospermophilus leucurus Least Chipmunk		C	PK	PK	PK		PK			
Eutamias minimus		C	PR	PR	PR	PR	PR	PR		
Cliff Chipmunk		1 0	110	1 10	IK	110	110	110		
Eutamias dorsalis		С					PR			
Unita Chipmunk		C								
Eutamias umbrinus		С				PR	PR.	PR	PR	
Valley Pocket Gopher							7			
Thomomys bottae		С	PR	PR	PR					
Northern Pocket Gopher										
Thomomys talpoides		С		¥		PR		PR	PR	
Townsend Pocket Gopher										
Thomomys townsendi									÷	
Little Pocket Mouse										
Perognathus longimembris		С	PR	PR	PR		PR			
Great Basin Pocket Mouse							- 8			
Perognathus parvus		С	PR	PR	PR		PR			
Longtail Pocket Mouse			D.D.	200	200		200			
Perognathus formosus	1990	С	PR	PR	PR		PR			
Dark Kanagaroo Mouse			nn	nn	nn					
Microdipodops megacephalus		С	PR	PR	PR					
Ord Kangaroo Rat		-	pp	pp	pn		DD			
Dipodomys ordi		С	. PR	PR	PR		PR			
Great Basin Kangaroo Rat		С	PR	PR						
Dipodomys microps Western Harvest Mouse		C	11	IK						
Reithrodontomys megalotis		C	PR	PR	PR:		PR			
Resembled in the second of the		C	1 10	1 1	1 10					

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Citeling Crowned Squirred
Colden-mentied Squirred
Citeline leastered
Amnosperageline leasures
Least Chiramen
Futenies matter
Chite Chiramen
Chirame

Mammals	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Canyon Mouse									
Peromyscus crinitus	С							PR	
Deer Mouse									
Peromyscus maniculatus	Α	PR	PR	PR	PR	PR	PR		
Pinyon Mouse					ž				
Peromyscus truei	C					PR			
Northern Grasshopper Mouse			:						
Onychomys leucogaster	FC	PR	PR	PR		PR			
Desert Woodrat									
Neotoma lepida	FC	PR	PR	PR				PR	
Bushytail Woodrat									
Neotoma cinerea	C					PR	PR	PR	
Mountain Vole		1							
Microtus montanus	U	,	PR						
Vagrant Shrew									
Sorex vagrans	С							PR	
Northern Water Shrew									
Sorex palustris	C							PR	
Little Brown Myotis									
Myotis lucifugus	FC				SR	SR	SR	SR	
Long-eared Myotis					4				
Myotis evotis	FC		SR		SR	SR		SR	
Long-legged Myotis									
Myotis volans.	FC	T			SR	SR		SR	
Small-footed Myotis									
Myotis subulatus	FC					SR		SR	
Big Brown Bat									
Eptesicus fuscus	FC		SR		SR	SR		SR	
Western Big-eared Bat									
Plecotus townsendi	FC	SR	SR	SR		SR		SR	
Pallid Bat									
Antrozous pallidus	U	SR	SR	SR					
Mexican Freetail Bat									
Tadarida brasiliensis	U	SR	SR	SR		SR		SR	
Ringtail						-			
Bassariscus astutus	U			PR				PR	

				Tieser Woods

									streams
Mammals	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and str
Shorttail Weasel				,					
Mustela erminea	R				PR		PR		
Longtail Weasel	**	nn	חת	חח	חח	nn			
Mustela frenata Badger	U	PR	PR	PR	PR	PR			
Taxidea taxus	. С	PR	PR	PR	PR	PR			
Spotted Skunk									
Spilogale putorius	U		PR	PR	PR	PR		PR	
Coyote						120			
Canis latrans	C	PR	PR	PR	SR	PR	SR		
Kit Fox Vulpes macrotis	U	PR	PR	PR					
Gray Fox		1	I IX	111					
Urocyon cinereoargenteus	U		PR	PR	PR	PR			
Mountain Lion									
Fells concolor	U		PR	PR	PR	PR		PR:	
Bobcat					P. P.	20			
Lynx rufus	С	PR	PR	PR	PR	PR		PR	
Yellowbelly Marmot Marmota flaviventris	U	PR	PR	PR	PR	PR	PR	PR	
Rock Squirrel	O	110	110	I K	110	110	1 10	1 10	
Citellus variegatus	U		PR	1		PR		PR	
Townsend Ground Squirrel									
Citellus townsendi	C	PR	PR	PR		PR	,		
Longtail Vole			DD.	DD					
Microtus longicaudus Sagebrush Vole	С		PR	PR					
Lagurus curtatus	U		PR	PR		PR			
House Mouse						•			
Mus musculus		Us	uall	y in	or	near	bui	ldin	gs
Porcupine									
Erethizon dorsatum	FC				PR	PR	PR	PR	
Pika								DD	
Ochotona princeps Blacktail Jackrabbit								PR	
Lepus californicus	C	PR	PR	PR	PR	PR	PR		
Mountain Cottontail.	The same of the								
Sylvilagus nuttalli	C		PR	PR		PR		PR	

				**
				**

Manual William Co.		5						streams
	Abundance		sagebrush	sh	H		*	and str
	Relative Abun	Shadscale	Wyoming big sa	Black sagebrus Aspen	Pinyon-Juniper	Limber pine	liff and rock	Lakes, ponds,
Mammals	Re	S	Wy	B1 As	Pi	E.	CI	La
Pygmy Rabbit								
Sylvilagus idahoensis Mule Deer	С	PR	PR		PR			
Odocoileus hemionus	С		PR	PR SR	PR	SR		
Pronghorn Antilocapra americana	U		PR	PR	PR		3.	
Bighorn Sheep (UN) Ovis canadensis	U	WR	WR	WR	WR	SR	PR	

PRELIMINARY DRAFT

TABLE G-Q WILDLIFE SPECIES AND RELATIVE HABITAT PREFERENCE FOR THE TONOPAH STUDY AREA

Habitat Types

Birds	Relative Abundance	Shadscale Wyoming big sagebrush	Black sagebrush Aspen	Pinyon-Juniper Limber pine	Cliff and rock Lakes, ponds, and streams
Eared Grebe	**				CD
Podiceps caspicus Western Grebe	U				SR
Aechmophorus occidentalis	U				SR
Pied-Billed Grebe					TOTA 7
Podilymbus podiceps Great Blue Heron	С	*			TV
Ardea herodias	С				SR
Common Egret					
Casmerodius albus Snowy Egret	С) SR
Leucophoyx thula	С		e II		SR
Black-Crowned Night Heron					
Nycticorax nycticorax	U				SR
American Bittern Botaurus lentiginosus	U		57		SR
Mallard	O				
Anas platyrhynchos	U				SR
Gadwall	ma'u				SR
Anas strepera Pintail					. OK
Anas acuta	U				SR
Green-winged Teal					CD
Anas carolinensis Blue-winged Teal	U				SR
Anas discors	. U				SR
Cinnamon Teal	FF				95
Anas cyanoptera	· U				SR
American Widgeon Mareca americana	U				TV
Shoveler					
Spatula clypeata	U				TV
Redhead	the loss often mortile this off	To the two two	Marie and the second		

PARTER DESIGNATION OF THE RESIDENCE OF THE PARTER OF THE P

Birds	Relative Abundânce	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Redhead	7.5								Em.
Aythya americana Ring-necked Duck	U								TV
Aythya collaris	U								TV
Canvasback					è				7.4
Aythya valisinerla	U				,				TV
Lesser Scaup									
Aythya affinis	U								TV
Common Goldeneye									
Bucephala clangula	U				98				TV
Bufflehead	***								Dat 1
Bucephala albeola Great Horned Owl	U								TV
Bubo virginianus	FC	1		PŔ	PR	PR			
Pygmy Owl	10			1 10	1 10	1.10			
Glaucidium gnoma	R						SR		
Burrowing Owl (U)									
Speotyto cunicularia	U		SR	SR					
Long-eared Owl									
Asio otus	U		SR	SR					
Short-eared Owl					*				
Asio flammeus	FC		SR	SR					
Saw-whet Owl		1			T				
Aegolius acadicus	U				U				
Poor-Will Phalaenoptilus nuttallii	FC.								
Common Nighthawk	ru								
Chordeiles minor	· FC		SR			SR			
Vaux's Swift									
Chaetura vauxi									
White-throated Swift								T	
Aeronautes saxatalis	R							R	
Broad-Tailed Hummingbird									
Selasphorus platycercus	FC				SR				
Rufous Humminghird	**						CD		
Selasphorus rufus	U					:	SR		
Calliope Hummingbird	U				SR		SR		
Stellula calliope	U				OIL		DI		

Birds	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Belted Kingfisher									
Megaceryle alcyon	U								SR
Red-Shafted Flicker									
Colaptes cafer	С				*SR	SR	SR		
Lewis' Woodpecker				٠.	1	T			
Asyndesmus lewis	U					U			
Yellow-Bellied Sapsucker									
Sphyrapicus varius	FC				SR	SR			
Hairy Woodpecker									
Dendrocopos villosus	FC				SR	SR	SR,		
Downy Woodpecker				• 11		1911			
Dendrocopos pubescens	U				SR				
Western Kingbird	-	· ·	c'n			CD			
Tyrannus verticalis	С		SR			SR			
Ash-Throated Flycatcher Myiarchus cinerascens									
Say's Phoebe									*
Sayornis saya	U					SR			
Traill's Flycatcher	U					OK			
Empidobax traillii	U				SR	SR			
Ruddy Duck					-				
Oxyura jamaicensis	U				3				TV
Hooded Merganser									
Lophodytes cucullatus	U								TV
Common Merganser									
Mergus merganser	U '								TV
Red-breasted Merganser									
Mergus serrator	R								TV
Turkey Vulture									
Cathartes aura	U	SR						SR	
Goshawk									
Accipiter gentilis	R				SR				
Sharp-shinned Hawk		0.5	an.	CD		CD.			
Accipiter striatus	U	SR	SR	SR		SR			
Cooper's Hawk	FC				SR				
Accipiter cooperii	rc				ЭK				

				Megaceryle slevee
				Common Murganser

TRACK VILAMENT PERS

Birds	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Red-tailed Hawk Buteo jamaicensis	FC	SR	SR			SR		SR	
Swainson's Hawk									
Buteo swainsoni Rough-legged Hawk	FC		SR			SR			
Buteo lagopus	FC		SR		,	SR			
Ferruginous Hawk (U)	•								
Buteo regalis	U		PR		PR	PR			
Golden Eagle Aquila chrysaetos	С	PR	PR	PR	PR	PR	PR	PR	PR
Marsh Hawk									
Circus cyaneus	FC		SR			SR			
Peregrine Falcon (E) Falco peregrinus	R	- 1						SR	
Prairie Falcon (U)	**	11						010	
Falco mexicanus	R	SR	PR			PR		PR	
Pigeon Hawk	ħ	٥.	CD			CD			1
Falco columbarius Sparrow Hawk	R		SR			SR			
Falco sparverius	C	SR		SR		SR		SR	
Blue Grouse							PR		
Dendragapus obscurus	С				1		С		
Sage Grouse Centracercus urophasianus	FC		SR	WV					
California Quail (I).								•	
Lophortyx californicus	U		PR						
Scaled Quail	U	PR							
Callipepla squamata Chukar (I)	U	11							
Alectoris graeca	FC		PR			PR		PR	
American Coot									
Fulica americana Killdeer	С								SR
Charadrius vociferus	C								SR
· · · · · · · · · · · · · · · · · · ·									

		The second second			
				Thorasters cosms	
				Employative sylvadged	

Birds	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Dirus	Re S	S	×	B1	As	Pi	1.	\Box	La
Common Snipe									
Capella gallinago	U								SV
Long-billed Curlew									
Numenius americanus	U			•					
Spotted Sandpiper					A.				
Actitis macularia	С								
Greater Yellowlegs									33
Totanus melanoleucus	U								TV
Least Sandpiper	_								Print a
Erolia minutilla	С						,		TV
Western Sandpiper	С								TV
Ereunetes mauri American Avocet	C	1							1 V
Recurvirostra americana	U	è							TV
Black-necked Stilt	C								1 4
Himantopus mexicanus	С								SR
Wilson's Phalarope									
Steganopus tricolor	U								TV
Northern Phalarope									
Lobipes lobatus	U								TV
California Gull				1					
Larus californicus	U	,							SR
Ring-billed Gull									
Larus delawarensis	U								SR
Forster's Tern									86
Sterna forsteri	U								SR
Black Tern									CD
Chilidonias niger	U								SR
Rock Dove Columba livia	С								
Mourning Dove	C								
Zenaidura macroura	C	SR	SR	SR	SR	SR			SR
Barn Owl		OK	OK	OK	OK	O.K			OIC
Tyto alba	C	PR	PR	PR					
Screech Owl	- U				SE .				
Otus aslo	U				SR	SR	SR		
Flammulated Owl	100		18 3						
Otus flammeolus	R				SR		SR		4.5

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				11	
					TI SEMESMENT BETON

Habitat 7	ypes
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	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock Lakes, ponds, and streams
Birds	æ	S	*	m	¥	Ъ	H	O A
Common Snipe								
Capella gallinago	U							SV
Long-billed Curlew	U							SV
Numenius americanus	U							
Spotted Sandpiper	U							
Actitis macularia	С				4			
Greater Yellowlegs					6			
Totanus melanoleucus	U							TV
Least Sandpiper								- 1
Erolia minutilla	С							TV
Western Sandpiper								
Ereunetes mauri	С							TV
American Avocet								
Recurvirostra americana	U	-						TV
Black-necked Stilt								
Himantopus mexicanus	С							SR
Wilson's Phalarope								1
Steganopus tricolor	U	•						TV
Northern Phalarope				•				
Lobipes lobatus	U							T.V
California Gull								
Larus californicus	U			1	ì			SR
Ring-billed Gull								
Larus delawarensis	U							SR
Forster's Tern								.532
Sterna forsteri	ņ	•						SR
Black Tern								a n
Chilidonias niger	U							SR
Rock Dove Columba livia	C							
	C							
Mourning Dove	C	CD	CD	CD	CD	cn		CD
Zenaidura macroura Barn Owl	С	SR	SR	SR	SR	SR		SR
Tyto alba	C	PR	PR	PR				
Screech Owl	L.	IK	IK	IK				
Otus aslo	· U				SR	SR	SR	
Flammulated Owl					OK	OK	OIL	
Otus flammeolus	R		1,1-14		SR		SR	
, ordo radiancordo	10							

PRELIMIKARY DRAFT

Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams	
U				SR	SR				
FC				SR	SR	SR			
FC		SR							
				1					
U				SR	SR				
FC				SR		SR			
Ū.				T		T			
		-	-						
A	1	PR	PR						
-	1			an					
C				SR					
C				CD					
C									
11.00	м								
U				U					
II	. ''			T				511	
С		SR	SR	•					
C								SR	
C	•				PR				
C	PR	PR	PR	PR	PR	T			
					-				
FC	PR	PR	PR	PR	T				
FC				PR					
	U FC U FC U A C C C C C	U FC U FC U A C C U C C C C PR FC PR	FC PR PR Whoming pig	Black sagebra PR P	U SR FC SR U SR FC SR U SR C	U SR SR FC SR SR U SR SR FC SR U T A PR PR C SR C S	U SR SR SR SR FC SR	U SR SR SR FC SR	FC PR PR PR PR T FC PR PR PR PR T

				Hab	itat	Тур	es			BS
Birds		Relative Abundance	Shadscale	Wyoming big sagebrush	Black'sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Pinyon Jay										
Symnorhinus cyanocephala		С					PR			
Clark's Nutcracker										
Nucifraga columbiana	I	FC					PR	PR		
Mountain Chickadee		_				DD	DD	nn		
Parus gambeli Plain Titmouse		C				PR	PR	PR		
Parus Inornatus		U			. "		SR			
Common Bushtit		U					SK			
Psaltriparus minimus	1	FC		WR		SR	SR			
White-Breasted Nuthatch	12									
Sitha carollnensis		U				SR		SR		
Red-Breasted Nuthatch										
Sitta canadensis		U				SR		SR		
Brown Creeper			*							
Certhia familiaris		U				SR		SR		
Dipper										
Cinclus mexicanus		U							ž	
House Wren	Ε.					an.				
Troglodytes aedon	i	FC				SR				
Cathernes mexicanus		D							CD	
Catherpes mexicanus Rock Wren		R							SR	
Salpinctes obsoletus		С			A				SR	
Mockingbird									OK	
Mimus polyglottos		U	SR	SR						
Sage Thrasher			•							
Oreoscoptes montanus	6	C			SR					
Robin										
Turdus migratorius		C				SR	SR			
Hermit Thrush						-				
Hylocichla guttata	F	C				SR				
Swainson's Thrush		**				CD				
Hylocichla ustulata		U				SR				

81-0

Habitat	Types	S
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									streams
			ush						str
	Relative Abundance		sagebrush	sagebrush		er		sk k	and
	pm	•		bri		ipe	9	and rock	ds
	A	0	big	18e		E I	pine	pı	non
39 30 .	ive	cal		S	1300	n-1		ar	111
	at	ds	mi	c,	en	0	be	ff	es
Birds	Rel	Shadscale	Wyoming	Black	Aspen	Pinyon-Juniper	Limber	Cliff	Lakes, ponds,
Myrtle Warbler									
Dendroicia coronata	R				SR		SR		
Audubon's Warbler							hiz		
Dendroica auduboni	C				SR		SR		
Black-throated Gray Warbler									
Dendroica nigrescens	C					SR			
Townsend's Warbler	_								
Dendroica townsendi	С				SR	SR			
Hermit Warbler	**				F				
Dendroica occidentalis	U				T	T			
MacGillivray's Warbler	С								CD
Oporornis tolmiel Yellowthroat	C								SR
Geothlypis trichas	U		1 100						SR
Yellow-Breasted Chat	Ü		*						OR
Icteria virens	С								SR
Wilson's Warbler									1090
Wilsonia pusilla	.C								SR
House Sparrow (I)									
Passer domesticus	A				PR	PR			PR
Western Meadowlark									
Sturnella neglecta	U		SR	SR	7	SR			
Yellow-Headed Blackbird									
Xanthocephalus xantho-	B.	18.							
cephalus	С								SR
Red-Winged Blackbird	_	7.							CD
Agelaius phoeniceus Bullock's Oriole	С								SR
Icterus bullockii	Ü				SR				SR
Brewer's Blackbird	U				SK				SK
Euphagus cyanocephalus	FC	-	SR						
Brown-Headed Cowbird									
Molothrus ater	FC								SR
Western Tanager									
Piranga Iudoviciana	C				SR				

Birds	Relative Abundance	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Black-Headed Grosbeak									
Pheucticus melanocephalus Indigo Bunting	U				SR				
Passerina cyanea	R		T						T
Lazull Bunting	0								CD
Passerina amoena Evening Grosbeak	С				A				SR
Hesperiphona vespertina	U		N.Y.						T
Cassin's Finch									
Carpodacus cassinii	C				SR		SR		
House Finch Carpodacus mexicanus	С					SR			•
Gray-Crowned Rosy Finch	C					OK			
Leucosticte tephrocotis	U	9	WR						
Pine Siskin		*							
Spinus pinus	С						SR		
American Goldfinch	U					SR			
Spinus tristis Lesser Goldfinch	U					SK			
Spinus psaltria	U				SR	SR			
Red Crossbill									
Loxia curvirostra	R			7	SR				
Green-Tailed Towhee	C			,		CD			
Chlorura chlorura Rufous-Sided Towhee	С					SR			
Pipilo crythrophthalmus	С				SR	SR			
Savannah Sparrow									
Passerculus sandwichensis	C								SR
Vesper Sparrow	C		CD						
Pooecetes gramineus Lark Sparrow	C		SR	•)					
Chondestes grammacus	С		SR	SR					
Black-Throated Sparrow				711					
Amphispiza bilineata	C		SR						
Sage Sparrow			CD	CB					
Amphispiza belli	С		SR	SR		•			

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Spinor Trially - 12 1	

Unbiter Dynas

WELSTIFE SPECIES AND										ams
Birds	Relative Abundance	Shadscale		Wyoming big sagebrush	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Slate-Colored Junco										
Junco hyemalis	R							T		
Oregon Junco	С			SR	SR	SR	SR			
Junco oreganus Gray-Headed Junco	C			SK	· SK	SK	SK			
Junco caniceps	С					SR	SR	SR		
Tree Sparrow						. 1				
Spizzela arborea	R			WV						
Chipping Sparrow	_								9.5	
Spizella passerina	С			SR	SR			SR	SR	
Brewer's Sparrow Spizella breweri	A			SR	SR	SR	SR			
White-Crowned Sparrow	21				OK	O.K	O.N			
Zonotrichia leucophrys	C			T		T	T	SR		
Fox Sparrow			all .							
Passerella iliaca	С									
Lincoln's Sparrow	77									
Melospiza lincolnil Song Sparrow	U									1
Melospiza melodia	С									
STREET STREET										

PRELIMINARY DRAFT

PRELIMINARIY DIRECT

Siere-Gelered Jumen
Jumen bremeile
Green Jumen
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Green Jumen
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and rock . .

TABLE G-3
WILDLIFE SPECIES AND RELATIVE HABITAT PREFERENCE
FOR THE TONOPAH STUDY AREA

Habitat Types

Reptiles and Amphibians	Shadscale		Wyoming big sagebrush	Black sagebrush	Aspen		Pinyon-Juniper	Limber pine	Cliff ond work	כווון מווח וחכה	Lakes, ponds, and streams
Western Spadefoot Toad	χ	,	Х								
Scaphlopus hammondi Great Basin Spadefoot Toad	Δ	•	A								
Scaphiopus Intermontanus			X				X	X			
Boreal Toad Bufo boreas boreas	Х		Х	Х	Х		χ	Х			Χ
Pacific Treefrog	•	,	1	17							
Hyla regilla Red-legged Frog	χ		X	Χ							
Rana aurora			Χ		χ		Χ				Χ
Leopard Frog											
Rana pipiens Spotted Frog											X
Rana pretiosa											X
Zebra-tailed Lizard						7					
Callisaurus craconoides	χ										
Long-nosed Leopard Lizard											
Crotophytus wislizeni wislinzeni	χ	8	X								
Great Basin Fence Lizard	,		*								
Sceloporus occidentalis											
biserlatus	į X		X	X			Χ	Х)	(
Northern Sagebrush Lizard Sceloporus graciosus						* 1					
graciosus			X	χ			χ	Х			
Northern Side Blotched Lizard			34	,			,	Λ.			
Uta stansburiana stansburiana											

Beatler Types

Habi	tat	Types
------	-----	-------

Reptiles and Amphibians	Shadscale	Wyoming big sagebrush	Black sagebrush	Aspen '	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, and streams
Northern Desert Horned Lizard								
Phyronosoma platyrhinos platyrhinos	X		X					
Salt Lake Horned Lizard	Λ							
Phyronosoma douglassi				•				ų i
ornatum	X	X	X	. 1	X	X		
Great Basin Skink Eumeces skiltonianus								
utahensis		Х	Х		χ		Χ	
Great Basin Whiptail								
Cnemidophorus tigris		**						
tigris Rocky Mountain Rubber Boa	Х	χ			X			
Charina bottae utahensis		4		Χ		χ		
Western Yellow-bellied Racer		1 .						
Coluber constrictor								
mormon Red Racer			X			X	X	
Mastiophis flagellum								
piceus	X	X	Χ		X	χ	Χ	
Desert Striped Whipsnake								
Masticophis taeniatus taeniatus	х	χ	Х	1	χ.	χ	χ	
Great Basin Gopher Snake	^	•	^		Α.	Λ	Λ	
Pltuophis melanoleucus								
deserticola	X	χ	X	X	X	X		
Valley Garter Snake Thamnophis sirtalis	•							
fitchi				χ				
Wandering Garter Snake								
Thamnophis elegans								
Western Ground Snake		Х		X		Х		X
Sonora semiannulata	X	X	χ	X	Χ	Х	Х	

Marthur Beser Borne Links				
Reprinted that Amphibitions				

CHARLES BEING

Habitat Types

RELEGINARY BRAFT		sagebrush						and streams
Reptiles and Amphibians	Shadscale	Wyoming big sag	Black sagebrush	Aspen	Pinyon-Juniper	Limber pine	Cliff and rock	Lakes, ponds, a
Desert Night Snake Hypsiglena torquata deserticola Great Basin Rattlesnake Crotalus viridis	x	X		Gpo 7			X	
lutosus		X		X	χ	X	Χ	

PRELIMINARY DRAFT

T108 8492 poe. 31 Mas T118 8492 800 35 Mg. T118 8435 Sec. 30 Mg.

PRELIMINARY BEAFT

Hypsiglens torquera descritcola. Great Basin Eartlesnake Crotalus viridis

deptiles and Amphibians

Spanish and seeking

Pluyon-tunibus

More than 19350

ponds, and street

TABLE G-Y SAGE GROUSE STRUTTING GROUND LOCATION SUMMARY

	PRELIMINARY	DRI					ARE	EA 16	Nye	Count
Grou	ınd Name and Area		Loca	ation			How Located	Status		r When t Coun
MONI	TOR VALLEY									
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22.	Hooper's Stone House Ranch Pasco Canyon Pine Creek Barley Creek White Rock Rattlesnake Butte Mosquito Creek Willow Creek Pott's Ranch Reseeding Long Canyon Number 1 Long Canyon Number 2 White Sage Spring White Sage Canyon Stoneberger Creek Clipper Gap USFS Spring Corral Canyon Stone House Upper Grd. Stone House Lower Grd. Meadow Creek Table Mountain Number 2	T11N T 9N T 8N T 9N T11N T14N T14N T15N T15N T15N T15N T15N T15N T15N T10N T10N T10N T10N	R46E R46E R47E R46E R45E R48E R48E R48E R48E R46E R46E R46E R46E R46E R46E R46E R46	Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.	6 20 16 12 15 4 22 5 35 35 20 13 31 8 18 33 33 22 6	SWIANWIANELA SWIA SEIANWIA SEIA SWIA SWIA SWIA SWIA SWIA SWIA SWIA SW	Aerial ? ? 3 Grounds ? ? ? ? ? ? ? ? ? ? ? ? ?	A A U U U U A A A A A A U U U U U U U U	1971 1973 1973 1973 1973 1973 1973 1972 1972 1972 1972 1972 1972	1975 1975 1975 ? 1969 1971 1971 1971 1971 1971 1971 1971
	CLE FISH LAKE VALLEY						Ť			
1. 2. 3. 4. 5. 6. 7. 8. 9.	South Clover Creek Clover Creek Green Monster Lower Danville Lower Clear Creek Upper Clear Creek Tule Canyon Stargo Canyon Allotment Fence E. Savory Creek	T10N T11N T11N T11N T12N T12N T13N T13N	R49E R49E R49E R49E R49E R50E R50E	Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec.	21 33 34 2 27 27 27 31 29	NW14SI W12 NW14 SE14 SE14 NW14 NW14 SW14	Aerial (2 Grounds) (2 Grounds) (2 Grounds) (3 Grounds)	A U A A U A A U A	1972 1977 1871	1975 1975 1975 1975 1975 1975 1973 1975 1973 1975
LITT	TLE SMOKY VALLEY									
1. 2.	Willow Creek Cottonwood Creek			Sec.				A A		?

TABLE G-5 SAGE GROUSE STRUTTING GROUND LOCATION SUMMARY

		AREA 17	Nye County
Ground Name and Area	Location	Status	Year When Last Counted
REESE RIVER VALLEY	N		
 Tierney Creek Marysville Canyon New York Canyon Mohawk Canyon 	T14 R41E Sec. 11 NW ₄ T14 R41E Sec. 21 NW ₄ T14 R41E Sec. 33 SW ₄ T13 R41E Sec. 5 SW ₄	A A A A	1971 1973 1971 1973
INDIAN VALLEY			
Indian Valley Cloverdale Summit	T10N R40E Sec. 5 NE_{4}^{1} T10N R40E Sec. 5 SW_{4}^{1}	•	1973 1973
TOIYABE RANGE			
1. Mahogany Hill Number 3 2. Barney Meadows West 3. Barney Meadows North 4. Tom's Canyon Pass 5. Head of Wall Canyon 6. Last Chance Peak 7. Mahogany Hill Number 1 8. Mahogany Hill Number 2 9. North Indian Valley 10. Middle Indian Valley 11. Buffalo Mountain 12. Reese River 13. Mitchell Canyon 14. Spanish Ranch Canyon 15. Deep Canyon 16. Reese River Valley Number 2	T10N R40E Sec. 25 SW4 T10N R41E Sec. 17 NW4 T10N R41E Sec. 2 SW4 T10N R41E Sec. 30 NE4 T10N R42E Sec. 30 NE4 T10N R39E Sec. 1 SW4 T11N R40E Sec. 36 SW4 T11N R40E Sec. 36 SW4 T11N R40E Sec. 37 NE4 T11N R40E Sec. 37 NE4 T11N R40E Sec. 38 NE4 T13N R40E Sec. 38 SW4 T13N R40E Sec. 32 SE4 T13N R40E Sec. 38 SW4 T13N R40E Sec. 11 SE4	A A A A A A A A A A A A A A A A A A A	5
17. Reese River Valley Number 2	T16N R42E Sec. 21,22, 28 Corner of to each	27, A Lander	Co. 1971

Source: Nevada Department of Fish and Game, issued February 2, 1976.

TABLE C-1

AMEN 17

Mys County

	TION KARD SHEET ST. 27.	,
	1326 100 200 12 200	
So Mouth Indian Valley		
4. Milesolt Cappen		
S. Ban York Canyon		
	THE BALE SALE, \$1 60%	

Sources haven't Department of Paul and Come, Asserd Petrougy 2, 1976.

DESCRIPTION DAVIS

APPENDIX H

WILD HORSES

PRELIMINARY DRAFT

JUST BARREYESA

RED ROOMS

WELDER OUT .

APPEDNIX H

METHODOLOGY FOR COMPUTING ANNUAL INCREASE IN HORSES

Assume: all horses die by age 25.

- thus, average annual adult mortality is 4 percent.

1976 - 10.16 yearlings/100 adults (Green, personal communication, 1976)

1975 - 19 foals/100 adults (BLM trap data, 1975)

10.16 yearlings/100 adults (Green, personal communication, 1976)

- 4.00 adult mortality

6.16 annual increase



HETEKOOLDEN BOR COATUTURO ANDAAL INCPLASE IN HORSES

1975 - 19 foals/100 abules (SIN apap date, 1975).

10.16 yearlings/100 adoles (Green, personal communication, 1976)

LEET HEREN BA

APPENDIX H

PRIELIMINARY DEST

CALCULATION METHODS RANCHING DEPENDENCE ON PUBLIC LANDS

Dependence, as used in Table Σ -41, is that portion of a yearlong operation, expressed as a percentage, which is spent on, or which is dependent on, a given class of land. This is computed using animal unit months (AUM) of use rather than periods of time.

The information used to compute dependence was obtained from different sources and by different means for some users, depending upon the information available and its reliability. Knowledge of base herd size and the use of private lands (base property) was most often unknown or was incomplete. If the number of head in the base herd was unknown, it was assumed to be the largest number licensed on national resource land (NRL). When the extent of use of private lands was unknown, it was assumed either the required use of base property is made, or that the base herd is on private lands when not licensed on NRL or national forest land. The assumption thought to be most accurate was chosen.

VENETOTA AF

PRELIMINARY DOS

CAMPITYTICS AND THE PARTY PROPERTY OF WHILL LANDS

Dependence, on the Lin Table Medi, is that persion of a yearlong operation, expressed as a percentage, which is open on, or which is dependent on, a giver class of 120d. Into is computed using enters unit meather (ADM) of use mether than periods of cine.

The information used to compute deponence ses obtained from children contracts and by different means for some wants, depending upon the information continues and the read for some wants, depending on bear the base hard and the cas of private lands (base property) was most eften unknown or one imposphere. If the number of head in the base base hard an untimed rescurce land (WKI), the information the extent of use of private lands was unknown, it was assumed either the required on all base property as sade, or that the base bear is on private that's when not incented on but that the base bear is on private that's when not incented on but

Use on NRL was obtained either from the current or past year's license whichever represents "normal" grazing use by the individual more accurately.

In the cases of Goicoechea, Carpenter, and M & N Livestock, where dependence was not computed, information was not available and could not reasonably be assumed or estimated. These operations are widely spread and highly variable from year to year. Goicoechea has made little use of his grazing privileges in the study area during the last several years, indicating little dependence on these privileges. Carpenter is heavily dependent on NRL and national forest land, utilizing private lands mostly during the lambing and shearing season. Complete information on M & N's operation was not available.

PRELIMINARY DRAFT

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Use on ARL are obtained mither from the current or past year's license whichever represents "novally grazing use by the indivi-

In the case of Coiconches, Uniqueter, and M & M livestock, where dependence was not companied, information was not available and could not reasonably in account or estimated. These operations are widely spread and ideals vertable from your to year. Goiconches has made listle use of his grating privileges in the study area during the list specime jours, indicating little on MRL and national forest land, difficulty in the dependence on these privileges. Corrected is ready dependent on MRL and national forest land, difficulty in the dependence of the leading and sinusing speciments of during the lands and sinusing speciments. Complete information or during the lands and objection of the New overstion was not overlaps against information or

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APPENDIX I

VISUAL RESOURCES

PRELIMINARY DRAFT

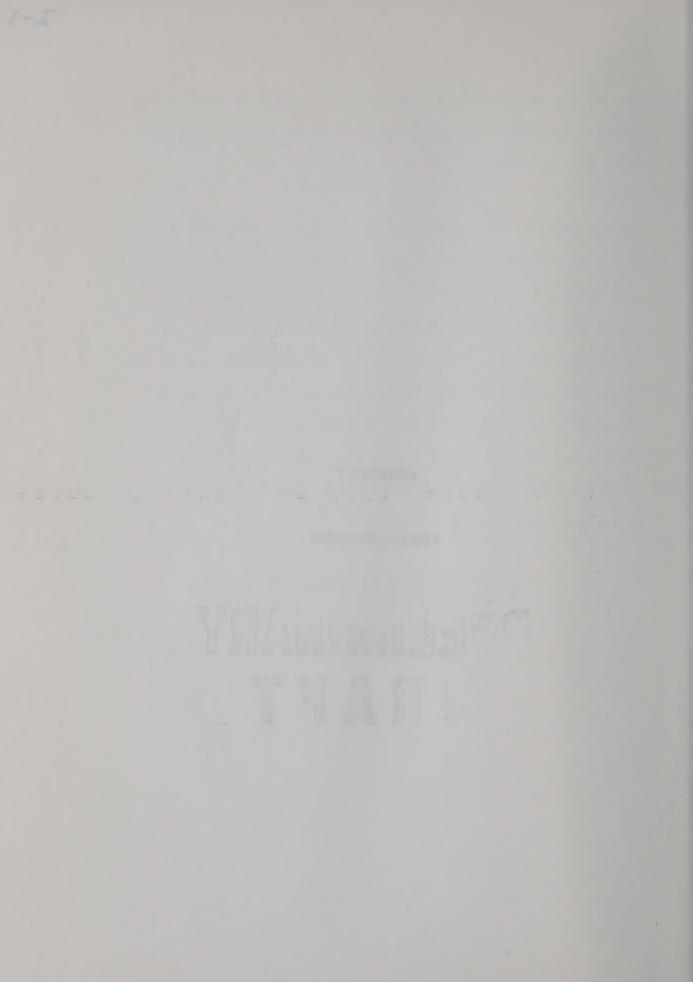


TABLE I-1 SCENERY QUALITY INVENTORY

Key Factors		Rating Criteria and Score	THE REPORT OF THE PARTY.
Land Form a/	Vertical or near vertical cliffs, spires, highly eroded formations, massive rock outcrops, severe surface variation 4	Steep canyon walls, mesas, interesting erosional patterns, variety in size and shape of land forms 2	Rolling hills, foothills, flat valley bottoms 1
Color <u>b</u> /	Rich color combinations variety or vivid contrasts in the color of soil, rocks, vegetation or water 4	Some variety in colors and contrast of the soil, rocks and vegetation, but not dominant 2	Subtle color variations, little contrast, generally muted tones. Nothing really eye-catching 1
Water <u>c</u> /	Still, chance for reflections or cascading white water, a dominant factor in the landscape 4	Moving and in view or still but not dominant 2	Absent, or present but seldom seen 1
Vegetation <u>d</u> /	A harmonious variation in form, texture, pattern, and type 4	Some variation in pattern and texture, but only one or two major types 2	Little or no variation, contrast lacking 1
Uniqueness e/	One of a kind or very rare within region 6	Unusual but similar to others within the region 2	<pre>Interesting in its setting, but fairly common within the region 1</pre>
Intrusions f /	Free from aesthetically undesirable or discordant sights and influences 2	Scenic quality is somewhat depreciated by inharmonous intrusions but not so exten-	Intrusions are so extensive that scenic qualities are for the most part nullified.
YELMENDEY Y	DRAFT	sive that the scenic qualities are entirely negated 1	- 4

a/ Land Form or topography becomes more interesting as its gets steeper and more massive. Examples of outstanding land forms are found in Grand Canyon, the Sawtooth Mountain Range in Idaho, the Wrangle Mountain Range in Alaska, Rocky Mountain National Park, etc.

Color. Consider the overall color of the basic components of the landscape (i.e., soil rocks, vegetation, etc.) as they appear during the high use season. Key factors to consider in rating "color" are variety,

contrast, and harmony.

c/ Water is that ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration in selecting the rating score.

d/ Vegetation. Give primary consideration to the variety of patterns, forms, and texture created by the

. vegetation.

e/ Uniqueness. This factor provides an opportunity to give added importance to one or all of the scenic features that appear to be relatively unique within any one physiographic region. There may also be cases where a separate evaluation of each of the key factors does not give a true picture of the overall scenic quality of an area. Often it is a number of not so spectacular elements in the proper combination that produces the most pleasing scenery -- the uniqueness factor can be used to recognize this type of area and give it the added emphasis it needs.

f/ Intrusions. Consider the impact of man-made improvements on the aesthetic quality. These intrusions can

have a positive or negative aesthetic impact. Rate accordingly.

Instructions to Bureau of Land Management personnel using this chart are:

Purpose: To rate the aesthetic quality of the scenic resource on all BLM lands.

How to Identify Scenery Value: All Bureau lands have scenic value.

How to Determine Minimum Suitability: All BLM lands are rated for scenic values. Also rate adjacent or intermingling non-BLM lands.

How to Delineate Rating Areas: Consider the following factors when delineating rating areas:

1. Like physiographic characteristics (i.e., land form, vegetation etc.)

2. Similar visual patterns, texture, color, variety, etc.

3. Areas which have a similar impact from intrusions (i.e., roads, structures, mining operations, or other surface disturbances).

SOURCE: BLM Manual 6310, Visual Resource Inventory and Evaluation.

PRELIMINARY DRAFT

APPENDIX I

VISUAL RESOURCE CONTRAST RATING METHODOLOGY

The visual contrast created by a management activity can be measured by determining the contrast caused by that activity in each of the basic elements.

The ease of detecting contrast in the basic elements varies on a scale from 4 (form) to 1 (texture). By assigning values that indicate degree of contrast, 3 for strong, 2 for moderate, and 1 for weak, we can set up a direct multiplier for an indication of the strength of the contrast.

Elements			Degre	e of	Contrast
Form	_	4	3	- 1	Strong
Line		3	2	-	Moderate
Color	-	2	1	-	Weak
Texture		1	 0	-	None

The contrast rating is applied to each of the types of features in the landscape separately. That is, a contrast vegetation, and for the structures. The ease of detection for each element is

PRELIMINARY DRAFT

AFFENDIX I

VISUAL RESOURCE CONTUST RATING RETURNING

The visual contrast drasted by a managazant notivity can be wensured by determining the contrast caused by they activity in each of the basic elements.

The ease of detecting contrast in the basic-alcounts varies on a scale from 4 (form) to 1 (texture). By assigning values that indicate degree of contrast, 3 for strong, 2 for meditate, and 1 for well, we can set up a direct multiplier for an indication of the extendil of the contrast.

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The contrast roting is applied to each of the types of festures in the isoderspe toperatory. That is, a contrast verezonion, and for the stratures. The mase of describing for outer element is

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multiplied by the degree of contrast and the results are added to get a total score.

A total score for each feature of 1-10 indicates the contrast can be seen, but does not attract attention; 11-20 attracts attention-the contrast begins to dominate the characteristic landscape; 21-30 demands attention, will not be overlooked.

The example rating sheet shows the contrast scores for one component of the proposed action, fences, within one landscape character type: mountains-canyons. The score sheet table shows all scores calculated for each component within the three characteristic landscape types.

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notificated by also degree of contents and the results are added to

A total score for each feature of 1-10 indicates the contrast conbe seen, but does not extract stimution; 11-20 stracts attention-the contrast begins to desirate the characteristic landscape; 21-30 demnnds attention, will not be averlooked.

The example reting sheet stoke the contract scores for one conponent of the proposed sculon, forces, which was implement character types mountained converts. The score where two shows all scores calculated for unth obsponent within the three characteristic leadscape types.

Paran Manager 1219

Project:	Management Facil:	ities - Fenc	es	
Landscape Ch	aracter Type:Mon	untain - Ca	nyons	
	Element	Contrast	Score	Maximum Score Possible
Land Form Features	Form - 4 X	0	. 0	
	Line - 3 X	1	3	
	Color - 2 X	0	0 `	
	Texture- 1 X	0	0	
	Total Land For	m Feature Sc	ore3	30
Vegetation	Form - 4 X	1	4	
Features	Line - 3 X	3	9	
	Color - 2 X	2	4	
. 3	Texture- 1 X	1	11	
	Total Vegetati	on Feature S	core <u>18</u>	30
Structures	Form - 4 X	3	12	
Features	Line - 3 X	3	9	
	Color - 2 X	2	4	
	Texture- 1 X	1	1	
	Total Structur	es Feature S	core 26 47	30 90
Individual l	Feature Scores:		*	
	does no 11-20: Attract begins 1andsca	t attract at s attention, to dominate pe. attention,	can be seen, but tention. the contrast the characterist will not be over	ic
Degree of Co	ontrast:			
	Strong Moderate Weak		3 2 1 0	IMUNIARY DRAFT

Note: Refer to Bureau of Land Management Manual 6230 for complete explanation of the contrast rating system.

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TABLE I-1 VISUAL CONTRAST RATING SCORES

Components Of Proposed Action			Valley Bottoms			Alluvial Fans- Foothills			Mountains- Canyons				
		Land- form	Vegeta-	Struc- tures	Total	Land- form	Vegeta- tion	Struc- tures	Total	Land- form	Vegeta- tion	Struc- tures	Total
razing Systems	- 1	6	17	10	33	6	15	10	31	10	. 23	10	43
anagement Facilities Fences Wells-Windmills Wells-Pumpjacks Spring Developments Water Troughs Underground Pipelines Water Storage Tanks Cattleguards		26 27 20 27 24 20 28 28	19 27 25 24 27 27 30 30	27 24 17 17 10 14 19	72 78 62 68 61 61 77	23 26 20 27 24 28 26	27 27 24 28 27 30 30	27 25 17 10 24 19 18	77 78 61 66 66 77 74	1 25 20 20 20 20 22 25	18 23 24 28 27 30 23	26 27 12 10 24 19 16	48 75 56 58 61 71 64
and Treatments Spray Only Spray and Seed Chain and Seed		16 23	26	10 26	52 79	13 22 23	26 30 27	10 • 26 27	49 78 77	,			

PRELIMINARY DRAFT

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APPENDIX J
CULTURAL RESOURCES

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APPENDIX I

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APPENDIX 3

CULTURAL RESOURCE INVENTORY TONOPAH GRAZING ENVIRONMENTAL STATEMENT

In order to establish a research strategy to obtain inventory data on the Tonopah resource area, probabilities of occurrence of cultural resources were developed using Bureau of Land Management (BLM) data on vegetative types, degree of slope, and the presence of springs and other permanent surface waters. U.S. Geological Survey maps were used to supplement the water data. The following probability categories were defined:

- Very High presence of surface water, any vegetative type or slope gradient.
- 2. High near surface water, vegetative types of pinyon juniper, sage species or grass and a slope of less than 30 percent. Any area within one mile of surface water was listed as high, regardless of slope or vegetation.
- 3. Medium same as above but not near surface water (vegetative types of pinyon/juniper, sage species or grass and slope less than 30 percent).

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CONTRACT RESOURCE INVENTORY.

in order to establish a research espansy to obtain inventory data on the Tonopah resource area, probabilities of occurrence of suitant tonopah resources were developed using Stress of Land Management (RLM) data on vegetative types, degree of slope, and the presence of springs and other permanent surface vaters. U.S. Geological Burvey mass were used to supplement the vater data. The following probability categorius were defined.

- 1. Very High presence of surface water, any vapriative type of slope gradients
- 2. High near surface enter, vegotative types of pinyon juniper, sage species or gress and a stope of last than 30 percent. Any ores within one mile of surface veter vegotation.
- s. Medium some as above but not rear surface mater fruertative types of pinyon/juniper, asse species of frank and slope laws thin 30 percent).

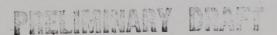
TRACE VENEZUALITY

 Low - other vegetative types not near surface water or slope over 30 percent.

These probability areas have been delineated on overlays. The original plan was for district range personnel to write Allotment Management Plans (AMPs) on each grazing allotment prior to the cultural resource inventory. Intensive or extensive surveys would then be done on all proposed range improvements. For example, those developments in Very High probability areas would be intensively surveyed; those in other areas would be extensively surveyed using a stratified random sampling design. The exact percentage of each development (seeding, fence, etc.) in High, Medium, and Low probability areas extensively surveyed would depend on the total number of acres involved for the resource area. These percentages had to be feasible given time and manpower.

However, the AMPs were incomplete when the cultural resource inventory began. Therefore, the district archaeologist checked all known springs on national resource land (NRL) for cultural resources. The decision to sample 100 percent of the known springs was based on:

 These are the areas of highest impact by livestock grazing as well as the areas of highest probability of having cultural resources.



de Low - orher wegenerance types not near surface vater or slope over 50 percent.

These probability savar have been delineated on everlays. The original plan are for district range personnel to write Allerance Management Plans filled on each gracing allerance prior to the coloured resource inventory. Interested or extensive aurery would then be done on all proposed rates interested as a statistic areas would be extensive in interested which surveyed with the probability areas would be extensively one-savely surveyed with a statistic sential design. The extensively one-centage of each development faced in these each the extensively one-centage of each development faced in these each the could depend on the contains and low probability areas involved for the resource area. These per-

Honorey begin. Therefore the district attimentages the charter of the control of the charter of the courter of the charter of

In these are the areas of highest on seat of the seat of the land and the seat of having

- - - Commence of the

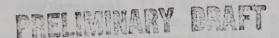
- Any spring with sufficient flow would probably be proposed for development or redevelopment.
- 3. Such a survey was feasible for the Tonopah resource area since there are few springs on NRL.

The inventory data is based on a non-random sample, of Very High probability areas, because of the time factor explained above.

The data collected includes:

- 1. The location of sites vis a vis spring,
- 2. Temporally diagnostic artifacts,
- 3. Condition of sites,
- 4. Environmental data on vegetation, soil, etc.,
- 5. The sites were rated using the BLM Cultural Resource Evaluation System (CRES).

Overlays have been compiled giving approximate site locations and symbol and color coding site type and rating. These overlays are available at the BLM Battle Mountain District Office.



the Any spains with sufficient flow would probably be pro-

A. Sura a carrey was fearible for the Tompen resource area.

The investory date is based on a mon-render complete of Very High probability areas, Lecture of the sine factor explained above. The date collected includes:

- 1. The location of sixua win a vin special
 - 2. Temporally discount our contracts;
- The Continues of Minney and American and Ame
 - . Dr. . Hot . molennique un orac lineaumunitum . h.
 - 5. The sites were retained by the DLM College Constant Seasons of the College College

Overlage have been equited alwing approximate the locations and symbol and color coding time type and rather. These overlage are evaluable as the Bill Felicle Security Discrete Colors

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APPENDIX 3

CULTURAL RESOURCES REPORT

(Tonopah Study Area)

CR Rep	ort:			
BLM	6-1	(P)	(NAS/Rusco)	Big Smoky Valley materials pit for Nevada Highway Department
	6-2	(P)	(BLM/Hatoff)	Little Fish Lake Valley chainings
	6-3	(P)	(BLM/Hatoff)	Various springs, gravel pits, and soil study plots
	6-5	(P)	(BLM/Lee)	Basil twist pipeline
	6-6	(N)	(BLM. Rowley)	Stone Cabin reservoir fence
	6-7	(N)	(BLM/Rowley	Italian Spring trough horse trap
	6-8	(N)	(BLM/Rowley)	Two mile horse trap
	6-9	(N)	(BLM/Rowley)	Haws Canyon pipeline horse trap
	6-10	(P)	(BLM/Lee)	U.T.A. Millett Ranch Inc., N-5759
	6-12	(N)	(BLM/Adams, Rowle	ey) Smoky Valley Mining Co. 12 KV electrical extension, N-11040
	6-17	(N)	(BLM/McGonalge)	Round Mountain 12 KV powerline and phone line relocation, N-11814 & N-11845
	6-18	(N)	(BLM/McGonagle)	Ivan Nanny 12.5 KV extension, N-10909
	6-19		(BLM/McGonagle)	Essie May Campbell lot, N-5360 & N-3689
	6-21	(P)	(NSM. Tuohy)	State Highway Department materials site, Jett Canyon
	6-22	(P)	(BLM/Adams, Rowle	ey, & McGonalge) Nevada Bell right of way N-10672
	6-27	(P)	(NSM/SPPC-Harriga	an) Sierra Pacific Power Co., Silver King
				Mining Co. 60 KV line, #75-NV-078
	6-28	(P)	(BLM/McGonagle)	Bell Telephone Co., Hanks phone line, N-12260
	6-29	7	(BLM/McGonagle)	USAF Booker Mountain radio site, N-6276
	6-30		(BLM/McGonagle)	Highway 6 reservoir horse trap
	6-32		(NAS-DRI/Brooks)	
	6-33	(P)	(BLM/McGonagle, I	Ballantyne) Tonopah dump site
	6-35		(BLM/McGonagle)	Bill well fence
	6-36	7 5	(BLM/McGonagle)	Nye County equipment site
	6-37		(BLM/McGonagle)	Gravel Sale, Standard Slag
	6-38		(SPPC-NSM/Harrig	
	0 00	()	(0110 11011) 11011116	Mining Co. south of Round Mountain
	6-39	(n)	(BLM/McGonagle)	Carl Haas pipeline, N-12835
	6-42		(BLM/Ball)	Railroad Valley oil well clearance
	6-43	~ .	(BLM/Ball)	Trap Spring No. 1 Wildcat well access road
	0-43	(11)	(Diny Daxa)	clearance lease N-10118
	6-46	(P)	(BLM/McGonagle e	
	6-47			Moores Creek gravel sale
	6-51			Gravel sale, highway pit to Wildcat Oil Co.
	0-31	(11)	(Diry Darrancyne)	(Trap Spring - NW pipeline)

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(Tonopuly Study Area)

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5-181 (N) (AA/Kenney) 5-205 (P) (NAS/Brooks)

Field reconnaissance of Lake Tonopah An archaeological inventory along 40 miles of proposed fence line construction along the north boundary of the Nellis Air Force Range in Nye County

NOTES: Reports prefixed by the number 6 pertain to the Battle Mountain District. Reports prefixed by the number 5 pertain to the Las Vegas District.

- (P) indicates positive report, i.e. cultural resources were found.
- (N) indicates negative report.

Abbreviations used in the report are: BIM (Bureau of Land Management), NSM (Nevada State Museum), NAS-DRI (Nevada Archaeological Survey, Desert Research Institute), AA (avocational archaeologist), SPPC (Sierra Pacific Power Company).

PRELIMINARY BRAFT

5-151 (#) (AL/Former) 5-205 (P) (BAS/Spools)

Field recommissione of lake Tonggap An archeological inventory along 40 wiles of proposed feare line construction slong the north boundary of the Notles Air Force Manar in Nye Lounty

NOTES: Appears profited by the number of percents to the Earlie Mountain marriet.

(P) indicates positive report, i.e. sultural resources were found

(M) indicates negative report

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PRELIMITARY DRAFT

APPENDIX K

MINERALS

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APPENDIX K

Minerals Areas

For information regarding the present situation, see the following maps:

1) Mineral Ownership

2) Minerals Inventory - Locatables

3) Minerals Inventory - Leasables and Saleables

4) Mineral Leasing

The following is a list of mineral areas within the 'Esmeralda County portion of the study area:

Mickspot Mine (antimony) T6N, R38E, Sec. 15

Crow Springs, Royston (turquoise, perlite, silver, lead, copper, gold, diatomaceous earth) T4-5N, R39E

Gilbert (gold, silver, copper, lead, turquoise, mercury) T3-4N, R38E

Coaldale (coal) T2N, R37E

Rock Hill (copper, molybdenum, fluorite, tungsten, iron, turquoise) T3-4N, R36E

Blackhorse (tungsten, barite, molybdenum) T2N, R34E

Dicalite Plant (diatomite) T2N, R33-34E

Lone Mountain (silver, lead, copper, gold, zinc, turquoise) T1-2N, R39-41E

Klondyke (silver, lead, gold, copper, turquoise) TlN, R42-43E

The following is a list of the mineral areas within the Nye County portion of the study area with their map code numbers listed first:

SE-1-3 Tybo (lead, silver, zinc, gold) T5-7N, R49-50E

SE-1-1 Page Mine (antimony) T8N, R49E

NE-32-1 Titus Prospect (antimony) T10N, R52E

SW-4-1 Manhattan (gold, silver, antimony, mercury) T7-8N, R43-44E

NW-37-1 Union (gold, silver, mercury, fluorine, lead, zinc, copper) T11-13N, R39E

NW-36-5 Round Mountain (gold, silver, tungsten, molybdenum) T9-10N, R44-45E

NW-36-3 Twin River (gold, silver, tungsten, antimony, lead) T10N, R40E, and T8-13N, R42E

NE-32-4 King Solomon Antimony Prospect (antimony) T9N, R46E

NE-32-2 Morey (silver, gold, antimony, lead) T9N, R36E

NW-37-4 Athens (lead, silver, gold, copper, tungsten, mercury, turquoise) T8-9N, R37-39E

NW-37-6-A Lodi (tungsten, silver, lead, gold) T13N, R36E

NW-37-6-B Mammoth (magnesium, iron, gold, lead, silver, mercury, tungsten) T11-13N, R36-38F

Minerals Areas

For information regarding the present elecation, see the following maps:

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interests Townster - Lecarebies

Minerals Inventory - Lussables and Salesbles

Delbard Leastle (2

The following is a list of mineral eroos within the fineralias

Mickeyot Hine (satisment) Tolk, RISE, Sec. 15 Crow Springs, Hopeton (compacing, parlite, allver, lead, copper,

Gilbert (gold, allest, ropper, lead, turquelse, carcury) 75-4K,

Strat All (Loos) wishing

Hock Hill (copper, colyndens, fluorite, ungeren, hren, tarqueise)

Maringes (tungeres, beries, molybdones) T2N, R341

Dicalite Plant (discreases TEX, ESS Sels -- .. -- ...

175-029

Klondyke (silver, lead, gold, copper, thronolos) Tim. R42-438

The following is a list of the mineral areas within the type County portion of the enalty area with their may code numbers listed.

SE-1-3 Tybo (lead, silver, rive, cold) 75-78, 209-50E

MEAST Titus Prosudet funtioned TION, BUTE

SW-4-1 Menhattan (gold, eliver, anthrony, mercury) TI-8N, RMS-14E RM-37-1 Union (gold, sliver, mercury, fluorine, load, sinc, cop-

NW-16-5 Round Fountain (gold, stivery tungster, sulphdenum) TF-15%

AW-36-3 Tyto Kiver (gold, silver, tungsten, antiumy, land) Tiow,

NE-5244 King Solumon Astimosy Prospect (astimosy) 79%, RANE NE-52-1 Horey (silver, gold, astimosy, lead) 70%, Kink

Mester Athens (lead, milver, gold, copper, tungeton, servery,

NW-37-6-A Louis (stongates, silver, less, gold) 75 to a 200E NW-57-6-A Stancock (angencies, less, gold, less, solver, solver,

- SW-3-1 Royston (copper, turquoise, silver, lead, gold, mercury, molybdenum) T5-6N, R38-40E
- SW-4-2 Longstreet (gold, silver) T5-6N, R47E
- SE-8-7 Reveille (silver, lead, gold, antimony, copper, tungsten)
 T2N, R51-52E
- SW-4-3 Last Chance Group (silver, lead, zinc) T6N, R45E
- SW-4-4 San Antonio (silver, gold, molybdenum, copper, lead, manganese) T5-6N, R41-42E
- SW-4-4a Hall Property (copper, molybdenum, silver) T5N, R41-42E
- SE-8-6 Silverbow (silver, gold, lead) TlN, and TlS, R49E
- SW-5-1 Ellendale (gold, silver, barite) T3N, R46-47E
- SW-4-5 Peg Leg and North Star Properties (tungsten) T3-4N, R42-43E
- SE-8-5 Eden (gold, silver) TlN, R50E
- SE-8-4 Golden Arrow (gold, silver) T2N, R48E
- SE-8-2 Clifford (gold, silver T3N, R49E
- SE-8-1 Arrowhead (silver, gold, lead) T3N, R51-52E
- SW-5-2 Tonopah (silver, gold, lead, tungsten, copper, molybdenum, mercury, kaolin) T2-3N, R42-43E
- SE-2-4 Willow Creek (gold, silver, fluorine) T2-4N, R55-56E
- SE-2-2 Troy (tungsten, gold, silver, zinc, lead, copper) T6-7N, R57E
- SE-2-1 Silverton (silver) T8N, R54E
- SE-1-5 Warm Springs (barite) T4N, R50E
- SW-5-3 Hannapah (gold, silver) T3-4N, R44-45E
- SE-8-3 Bellehelen (silver, gold, copper) T2-3N, R49-50E
- NE-32-3 Danville (silver, gold) T11N, R49E
- SE-1-4 M&M Mine (mercury) T5N, R49E
- SE-1-2 Lunar Crater (cinders) T6-7N, R52-53E
- SE-2-3 Butterfield Marsh (sodium) T7N, R56E
- NW-37-3 Nye and Esmeralda Counties (diatomite)
- NW-36-8 Darrough Hot Springs Known Geothermal Resource Area TllN, R42-43E
- NE-2-A Eagle Springs Oil Field (oil) T9N, R57E

PRELIMINARY DRAFT

Commodity Trends - Present and Future Production Potentials in the Study Area:

- Barite Major production of barite (BaSO₄), used in barium chemicals and drilling muds, is now occurring in Northumberland Canyon in the Toquima Range. Barite prospects have also been found at Warm Springs.
- Antimony Several small deposits exist in the study area. Some production may be expected in the future.
- Fluorspar Recent production has occurred in the Union District and the Willow Creek District. There is potential for renewed production.
- Gold Some operations are occurring at Manhattan and Round Mountain. Exploration is taking place on other prospects.
- Lead Lead has been mined from the Union District and Tybo.

 The mining of otherwise uneconomical deposits may be possible because of the association of lead with silver.
- Magnesium Magnesite MgCO₃, and Brucite, Mg(OH)₂, are mined in quantity at Gabbs. The outlook for future production is good.
- Oil Production is occurring at the Eagle Springs oil field. Production to July 31, 1976, totaled 3,031,888 barrels (with 10 operating wells).
- Turquoise Mines in the study area have produced large amounts of turquoise in the past and some are beginning production again.
- Zeolites Zeolites (hydrated aluminosilicates used in industry) are found near Tonopah and in the southern Monitor Range. Though not likely to be mined on a large scale in the near-future, the long-term future for production of zeolites is good. A shallow pit mining procedure would probably be used.
- Geothermal Steam A Known Geothermal Resource Area (KGRA) has been designated at Darrough Hot Spring in Big Smoky Valley. The potential for geothermal energy development within the study area is good.

Commodity Trends - Present and Turner Production Potentials in

Borico - Major production of baries (hason), used in baries claratents and drilling appe, is now occurring in Northemberland Canyon in the Toughten Dinge. Sarite prospects have

Anthony - Several small deposits exist in the study area. Fine

Physraps - Mescal speciation and eccurred in the Upper District on and the Willow Crook District There is recentlal for renewed preduction.

COIA - Sons operations are occurring at Machattan and Mandal

Lend - Lead the tran stand from the Colon Director and Tyles The manime of otherwise emecanciles of orderts may in mossible necess of the association of lead with salver-

tognested - Magnesiae Marco, and Brucits, Marcollos are since in the second for the curure production in

plant Its against and to deliver at the Lord Springs of the Lord S

- Millions by the long area and the rest of the second - second -

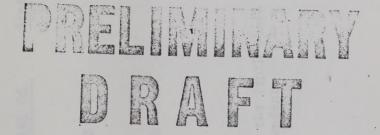
Zeolicas - Scolicas (no Strand algudantisticares used in Industry)
are found near Tomopals and in the the Southern Monitor States
Though not Sixely to be pined on a large scale in the
near-future, the long-week flaters for production of sevlives in good. A shallow pix mining procedure would
probably as used.

Coordinated Steam - A Minim Coordinated Management Area (MCRA) has been designated at Payrough Not Spring in dig Staty Valley. The prientled for gentlement energy development within the study area is good.

LINE ALTERNATIONS

APPENDIX I

SOCIAL-ECONOMICS



TAARI

TABLE L-1
NORTHERN NYE COUNTY SCHOOL ENROLLMENT

	•				Tot	al
	Special Ed.	Kindergarten	Elementary	High School	1976	1975
Duckwater			7		7	7
Gabbs	33	13	71	101	218	220
Round Mountair			39		39	30
Tonopah	26	20	155	223	424	459 -
Yomba		1 5 7 5 5	17 .		17	15

Enrollment is for the tenth month of each school year and was supplied by Mr. Joaquin Johnson, superintendent.

DOCI INIHARY DRAFT

MOKINESS, MAR COUNTY SCHOOL EMBOTTWENL

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Line				

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Allotment	Proposal Beginning Year 1	Proposal Objective Year 15	Net Increase
Blue Eagle	978	1,722	744
Butterfield	2,206	2,670	464
Nyala	10,400	16,157	5,757
Reveille	14,400	21,791	7,391
Hot Creek	16,825	27,606	10,781
Wagon Johnnie	4,447	5,442	995
Stone Cabin	10,559	15,244	4,685
Ralston-Monitor	13,685	18,557	4,872
Hunts Canyon	2,906	3,890	984
Francisco	720	1,299	579
Darrough Hot Springs	1,150	1,150	0
Ione	6,929	11,632	4,703
San Antone-Smoky	15,322	28,778	13,456
Willow Creek	35 8	1,321	463
Total	101,385	157,259	55,874

PRELIMINARY DRAFF

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TRANS MEMBERSHIP

Average Price Per 100 lbs. Received By Farmers, Nevada, 1970-74

Year			Dollars	
1970			33.50	
1971			35.60	
1972			44.40	
1973			54.80	
1974		•	33.70	
Total			202.00	
Five Year A	Average		40.40	

Source: United States Department of Agriculture, Statistical Reporting Service, Agricultural Statistics.

ASSUMPTIONS:

75 percent calf crop
325 pound calf weights
3 percent death loss

CALCULATION:

3,862 X 325 lbs. = 1,255,150/100 lbs. = 12,551.5 cwt. X \$40.40 = \$507,080.60 per year after the 15 years of the proposal.

PRELIMINARY DRAFT

DATES OF DESIGNATION OF REAL PROPERTY OF STREET

Average Price For 107 25a. Received by Tarners, Nevert, 1970-74

Sourcest Salves Sensylment of Agricultures Station.

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TABLE X 325 Ths. - 1.055 ASSAULT DE YEAR ASSET THE 15 years of the proposal.

TABLE L- REVENUES FROM GRAZING
THROUGH IMPLEMENTING THE
PROPOSAL, YEARLY AND CUMULATIVE

)		(Dollars)	
				- 1		
					1	
1		\$33,875.4	40		33,875.40	
2		11			67,750.80	
3		11			101,626.20	
4		71			135,501.60	
5					169,377.00	
6		- 11			203,252.40	
7.		11			237,127.80	
8		11			271,003.20	
9		11			304,878.60	
10		11			338,754.00	
11		17			372,629.40	
12	,	11			406,504.80	
13		11			440,380.20	
14		11			474,255.60	
15		11			508,131.00	

*May vary from the estimated amount due to rounding.

PRELIMINARY DRAFT

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Industry	Earnings (\$1,000)	Export Related Earnings (\$1,000)	Import Related Earnings (\$1,000)	Industry Income Multiplier
Agriculture				
Livestock (except dairy-poultry)	2,075	1,623		1.103
Other agriculture	835		231	1.028
Mining				
Metal	4,974	4,432		1.118
Fossil fuels	88	36		1.054
Quarrying	142	72 .	,	1.067
Contract construction	A 17F	1 000	*	4 067
contract construction	4,135	1,989		1.063
Manufacturing				
Food and kindred products	136		805	1.004
Lumber and wood products			174	1.000
Other manufacturing	501	*	6,433	1.017
Transportation and communication	1,006		[*] . 762	1.034
Public utilities	310	* · · · · · · · · · · · · · · · · · · ·	273	1.010
Wholesale and retail trade	2,244		2,164	1.079
Finance, insurance, and real estate	496	per .		1.000
Services	6,684	3,824	7 7 7 1 1	1.076
Recreation		1 1 1		
	- 1 4			
Covernment		W W. W. C.		1 170
Federal	3,536	3,536		1.132
State and local	3,314			1.000
District summary	30,476	15,512	11,405	.132

Source: United States Department of the Interior, Bureau of Land Management, Denver Service Center, June 1973.



Beef Cattle	Assessed Value Not Less Than <u>a</u> /
Range Bulls	\$161.00 per head
Cows (2 yrs. and older)	89.00 per head
Heifers (1 to 2 yrs.)	68.00 per head
Steers (1 yr. and older)	74.00 per head
Weaned Calves (6 mo. to 1 yr.)	52.00 per head
Purebred Cows	161.00 per head

a/ Normal charge is approximately 35 percent of assessed valuation and not more than a five percent tax rate.

Source: State of Nevada, Nevada Tax Commission, <u>Instructions for Assessment</u>, Bulletin No. 133, Carson City, July 1974.

CALCULATION:

								-		
Weaners	3,862	X	52.00	=	200,824	X	.05	=	10,041.20	
Cows	5,308	X	89.00	=	472,412	X	. 05	=	23,620.60	
Bulls	279	Χ	\$161.00	=	\$44,919	Χ	.05	=	\$2,245.95	

Additional Tax Revenues = 35,907.75

PRELIMINARY DRAFT

DEPOS OF TAX REVENUES DON TO SPANISH

Beaf Collin

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Range Bulls

(robjo bes .vry t) swell

Helfers (1 to 2 yrs.)

Steens (I pr. and older)

Meaned (falles (6 so. to 1 yr.)

Furgitical Cows

hand you outling

hard 127 ,00.98

Sand tog 00.88

74,00 res head

52,000 per head

161,00 per bond

as Normal course is approximately 35 percent of assessed valuation and not be seen a five percent tax rate.

Source: State of Meyeda, Meanda Tex Commission, Instructions Por Assets

TEAL COLLABORATIONS

40.000,52 - 20. X ELC,042 - 10.1012 X era

35,862 X 52,000 = 200, 2 05, 20, 20 X 538,20

Additional Tax Recombes w AS, 907.75

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TABLE L- \\
TAX REVENUES, YEARLY
AND CUMULATIVE

	Year o		Per Year (Dollars)	Cumulative* (Dollars)	
175				052,530	
			271,152		
	1	170,702	\$2,399.05	\$ 2,399.05	
	2		u	4,798.10	
	3		11	7,197.15	
	: 4	31,013	11	9,596.20	
	5		u	.11,995.25	
	6		11	•14,394.30	
	7		11	16,793.35	1.3
	8		11	19,192.40	
	9			21,591.45	
	10		ti	23,990.50	
	11		tt.	26,389.55	
	12	78.	11	28,788.60	
	13		11	31,187.65	
	14		. 11	33,586.70	
	15		11	35,985.75	

*May vary from the estimated amount due to rounding.

PRELIMINARY DRAFT

TAR NEVERLES, YEARLY
AND CHRULATIVE

(Bollars)		
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		1
	1100 5 2	15

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THAN WINEWALEN

TABLE LAND HORSES, 1960-75

Year	Regular Nonuse	Active Use	Total Licensed	Percent Change
1975 1974 1973 1972 1971 1970 1969 1968 1967 1966 1965 1965 1964 1963 1962 1961	93,049 79,235 136,762 91,247 90,196 91,463 92,654 90,445 108,936 99,547 105,314 139,013 179,615 184,294 229,679 207,379	358,881 317,451 314,923 331,490 324,379 316,437 302,194 327,283 394,698 306,485 294,634 275,087 235,933 231,254 220,613 242,913	451,930 396,686 451,685 422,737 414,575 407,900 394,848 417,728 503,634 406,032 399,948 414,100 415,548 415,548 450,292 450,292	+ 14 - 12 + 7 + 2 + 2 + 3 - 5 - 17 + 24 + 2 - 3 0 0 - 8

TABLE AUM LICENSED USE TONOPAH STUDY AREA CATTLE, 1974-75

Year	Nonuse	Active Use	Total Licensed
1975	20,155	109,394	129,549
1974	24,164	99,972	124,136
Charac	- CALETTE WAS	Mary Strategies	
Change 1975/1974 + 1975/1974 Percen	- 4,009 - 17%	+ 9,422 + 9%	+ 5,413 + 4%

451,950 451,065 422,757 422,757 442,555 447,756 441,756 441,756 450,065 450,065 450,366 450,366	93,045 79,215 91,267 136,762 91,267 91,465 92,656 90,445 106,956 106,956 106,956 179,655 179,655 179,655	

AUG LICENSID U.E.

	Nonure	
ESPARA P		

ASSESSED ASSESSED TO SERVICE ASSESSED TO SERVI

TABLE L-<

GRAZING AUM USE NO ACTION ALTERNATIVE

Allotment	Year 1	Year 15	Net In crea se (Decrease)
Blue Eagle Butterfield Nyala Reveile Hot Creek Wagon Johnnie Stone Cabin Ralston-Monitor Hunts Canyon Francisco Darrough Hot Springs Ione San Antone-Smoky Willow Creek	978 2,206 10,400 14,400 16,825 4,447 10,559 13,685 2,906 720 1,150 6,929 15,322 858	1,222 1,989 10,688 21,791 17,253 2,369 11,145 16,338 2,710 958 1,150 10,392 15,922 858	244 (217) 288 7,391 428 (2,078) 586 2,653 (196) 238 0 3,463 600 0
Total	101.385	114,785	13,400

Assumptions:

75 percent calf crop 325 lbs. calf weight 3 percent death loss

1:20 Bull - cow ratio

926 x 325 lbs. = 300,950 / 100 lbs. = 3,009.5 cwt x \$40.40 = 121,583.80

PRELIMINARY DRAFT

HEU PEIA DETEARD

200, 01 100, 10 100, 10 10 10 10 10 10 10 10 10 10 10 10 10 1	

Assumptions.

JE percent cell tree 325 lbs. cell weight depress death luck 1:20 Kull - cell rutle

926 v 325 lbs. - 300,956 v 100 lbs.

TEACH VENEZULENG

1-11

TABLE L- 10.

TAX REVENUE CALCULATION NO ACTION ALTERNATIVE

Bulls 67 X \$161.00 = 10,787 X .05 = \$ 539.35 Cows 1,273 X 89.00 = 113,297 X .05 = 5,664.85 Weaners 926 X 52.00 = 48,152 X .05 = 2,407.60 Additional Tax Revenues = \$8,611.80

BUSTIMINARA DUVILLA

TABLE L. C.

The state of the s

TAX REVENUE CALCULATION NO ACTION AND ACTION

28,650.2 - 20. X TOT.OL - 00.1012 X 73 21106 28,650.2 - 70. X TOT.OL - 00.08 X ETS.X 2003

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